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INCENTIVE MOTIVATION IN GYMNASTS AND COACHING LEADERSHIP STYLE REFLECTED IN ELITE MODERN RHYTHMIC GYMNASTICS SETTINGS IN CANADA

by

LILIANA ALEXANDRA ILICA

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ABSTRACT

The present study had two primary purposes:

1. To determine patterns of incentive motivation, as measured by the Alberta Incentive Motivation Inventory (IMI), among elite modern rhythmic (MR) gymnasts.

2. To examine trends of leadership style, as measured by the Least Preferred Co-Worker scale, in elite modern rhythmic gymnastics (MRG) coaches.

Respondents who participated in the study were all elite modern rhythmic gymnasts who competed officially in the 1981 Canadian Modern Rhythmic Gymnastics Championships, and their coaches. Specifically, respondents were 84 modern rhythmic gymnasts, age nine to 24, and competing in individual, group, and both events; and 12 elite modern rhythmic gymnastics coaches.

Each gymnast completed a questionnaire composed of three parts: personal demographic information, the Alberta IMI, and the Team Atmosphere (TA) scale. The personal demographic information was used to describe the elite MRG group in Canada. The Alberta IMI and TA scales were used to test the research hypotheses proposed in this study.

Of the 84 gymnasts, 31 were juniors in the age range of 9 to 14 years and with a mean age of 12.81 years; 48 gymnasts were seniors in the age range of 15 to 24 years with a mean age of 17.62 years. The mean age of the entire

sample was 15.73 years.

Of the respondents, 17.86 % were competing in individual events, 72.62 % in the group event, and 9.52 % in both events. The individual events gymnasts had been competing in MRG for an average of 4.4 years and at the present level for an average of 2.13 years. The group events gymnasts had been competing in MRG for an average of 2.78 years and at the present level for an average of 2.0 years. Gymnasts who competed in both events averaged 4.0 years in MRG, and 2.37 years of competition at the present level.

MR gymnasts scored highest on the excellence incentive system, followed by the affiliation incentive system as measured by the IMI. Also, in almost all cases (91.66 %), the scores of the gymnasts competing in individual and group events exceeded scores of the gymnasts competing in both events.

Junior gymnasts perceived the team atmosphere much higher than senior gymnasts. Gymnasts competing in group events scored higher in assessing the team atmosphere than gymnasts competing in individual events.

Each coach completed a questionnaire composed of two parts: personal demographic information, and instruments employed: Coach-Attitude Behavior, Least Preferred Co-Worker, and Team Atmosphere scales. The personal demographic information was used to describe the elite MRG coaches group in Canada. The instruments provided the

necessary data for testing the research hypotheses proposed in the present study.

Of the 12 coaches, 83.33 % were in the age interval of 18-45 years. Six coaches were born in Canada and seven coaches had lived most of their lives in Canada. The others came to Canada from Europe and Japan. Seventy-five percent of the respondents were married and 50 % of the married respondents had one or two children.

Seventy-five percent of the respondents held a bachelor's degree. Among them, 66.66% indicated physical education as their major. The other 33.33 %, who all came from Eastern Europe, indicated MRG as their specialization.

Two coaches reported no MRG experience as a competitor, six reported having less than five years experience, while four had more than five years experience. The coaches who lived longest outside Canada had a mean of 7.2 years of competitive experience, as opposed to a mean of 2.4 years reported by the coaches who lived longest in Canada.

Of the respondents, 33.33 % had less than five years experience as assistant coaches, while the remaining two-thirds has no experience as assistant coaches. The average head coach experience of this sample was 6.33 years, with a range of one to 15 years.

Two thirds of the respondents were certified coaches in that they had qualified for Level I certification of the National Coaching Certification Program (NCCP). Fifty percent indicated that they did not hold any other coaching

certificates. The other half of the respondents reported holding a variety of certificates in sports related to MRG: artistic gymnastics, trampoline, figure skating.

The mean for training hours per week for the entire sample was 13.42 hours. For preparation and planning, outside of practice sessions, the mean for the entire sample was 6.6 hours per week. The mean for the entire sample for organizing, promoting and general administration was 5.64 hours per week. Thus, the average time committment, per week, for each coach was 25.66 hours. The average number of months training per year for the entire sample was 9.66.

Of the 12 coaches, three coached only the group event. For the remaining nine coaches a total of 20 gymnasts were distributed as follows: three coaches trained one gymnast, three trained two, one trained three, and two trained four. Almost 92 % of the respondents were training either one or two groups of gymnasts.

The CAB scale, measuring the degree of authoritarianism, revealed that 75 % of the respondents were classified as authoritarian. Using the LPC scale to assess leadership style, it was found that 41.67 % of the respondents were relationship oriented, 33.33 % were task oriented, and 25 % were in-between. The TA scale, measuring the perception of team atmosphere, indicated that all coaches perceived that their teams were very harmonious. All TA scores were clustered in the upper third interval of the scale, with a mean of 70.64 and a range of 62-80. The.

upper third of this scale ranges from 56.6 to 80.

The present study revealed that:

1. There were no significant differences on any of the IMI subtests between gymnasts age nine to 14 and 15 to 24, whether competing in individual, group, or both events.

2. No relationships were found between leadership style and CAB measurements, coaches educational background, coaches qualifications, years of coaching experience, marital status, time spent on training, preparation, and organization per week, and the number of months of training per year. A significant positive correlation was found between LPC scores and cultural background. Low LPC coaches perceived team atmosphere significantly higher than high LPC coaches. Low LPC coaches and their gymnasts combined perceived team atmosphere significantly lower than high LPC coaches and their gymnasts combined.

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I. STATEMENT OF THE PROBLEM

Introduction

The incentive values of the perceived goals accessible to groups of modern rhythmic (MR) gymnasts as well as the leadership styles adopted by their coaches are the topics of this study.

In the broad context of human motivation, which is the study of the determinants of human behavior, incentive motivation in sport may be described as those factors which are most influential in arousing and maintaining the athlete's motivation to participate in competitive sport. What goals athletes perceive as available through their involvement in sport, and how attractive these goals are to them, are the main factors studied (Wood, 1980, p. 1).

Incentive motivation was first introduced in psychology, as an intervening variable, by Clark L. Hull as part of his theory of action. He suggested that "two energizing sources, drive and incentive, be postulated to act on habits to effect action" (Birch and Veroff, 1966, p. 5). Other researchers enhanced the conceptual framework of the earlier Hullian theory (Tolman, 1932; Spence, 1956), expanded the interpretation of the functionalism of incentive values in achievement settings (McClelland, 1961; Atkinson, 1964), and advanced the view that human motivation could be described as seven incentive systems that account for an individual's significant recurrent instrumental and

consummatory behavior (Birch and Veroff, 1966). These systems were labeled: sensory, curiosity, affiliative, aggressive, achievement, power, and independence.

Using this frame of reference, Alderman and Wood (1976), and Wood (1980) constructed an instrument for measuring incentive motivation in sport which they named the Alberta Incentive Motivation Inventory (IMI). Using IMI, Alderman and his co-workers studied perceived incentives of young Canadians active in several sports. This work led them to redefine several of the systems. The first modification was based on the proposition that achievement can be a social as well as an asocial system. The social components of achievement revolve around social success (status, prestige, recognition) (Wood, 1980, p. 2). In contrast, asocial incentives provide motivation to pursue excellence without relying on recognition, status, and prestige, as rewards. This component of achievement for its own sake was labeled the "excellence" incentive system (Wood, 1980, pp. 2-3).

The second modification consisted of a merging of Birch and Veroff's (1966) sensory and curiosity incentive systems into one system labeled "arousal" (Wood, 1980, p. 3). The rationale for this modification came from the literature on "arousal seeking" behavior in play, physical activity, and sport (Ellis, 1973). It was asserted that many aspects of sport participation revolve around the level of arousal inherent in the individual and his attempt to obtain and

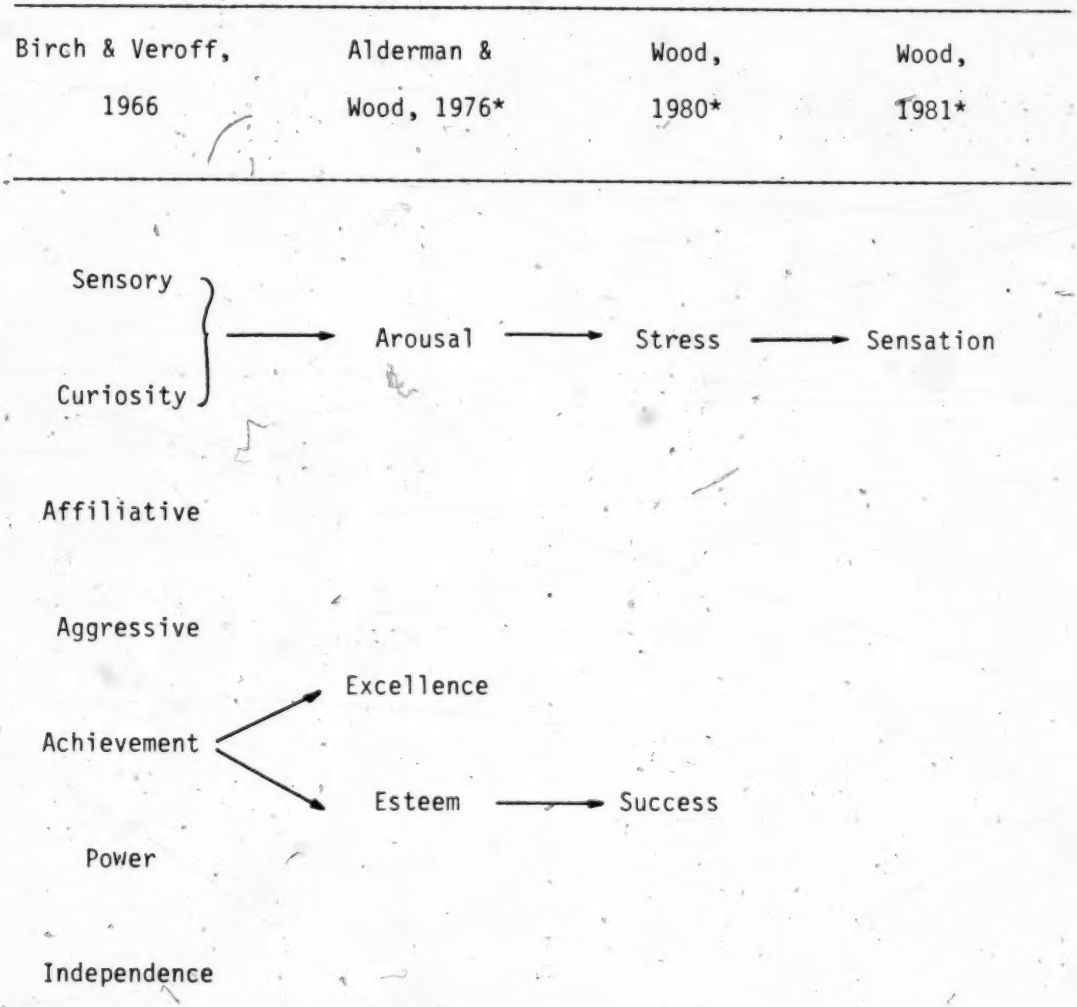
maintain an optimal arousal level through physical activity and/or sport participation (Alderman and Wood, 1976, p. 170).

Following a later study, Wood (1980, p. 3) relabeled the esteem incentive system "success", and the arousal incentive system "stress". More recently, Wood (1980/1981) expanded the sphere of the stress incentive system to "opportunities for athletes to have exciting, interesting, and sensory experiences" (p. 8) and relabeled it "sensation".

Figure 1 summarizes the modifications advocated by Alderman and Wood to the seven original incentive systems described by Birch and Veroff in 1966.

Perhaps the most important outcome from the several studies using the Alderman instrument, was the finding that the incentive system of excellence, affiliation, sensation and success had the greatest influence on the athletes studied (Wood, 1980, p. 9). In the present study, the IMI was employed to examine the relative incentive values of the perceived goals accessible to groups of MR gymnasts as defined by these four incentive systems Wood found to be most important.

The second concern of the study focused on the motivational style adopted by coaches of selected, elite modern rhythmic (MR) gymnasts. Leadership was considered to represent a "relationship in which one person uses his power and influence in getting a number of people to work together



* Affiliative, aggressive, power, and independence remained unchanged.

Figure 1. Modifications in the Nomenclature of the Incentive Systems Initially Described by Birch & Veroff (1960).

and accomplish a common task" (Gibb, 1969, p. 231). This appears to describe the essence of coaching.

In this study the coach is considered analogous with the leader for the following reasons: the coach interacts with her athletes in an environment of complex situations, as does the leader. She is further required, as Mann (1965) proposes, to possess human relations, technical, and administrative skills. This trilogy of skills must be differentially applied by the coach in situations that involve the athletes, and family members as well as representatives of various related agencies such as sports associations, the school, the media, the church, and even government.

The coach prepares athletes for competition and so it is to be expected that both his expectations and those of the athletes and others will be closely linked to results achieved in competition. Regardless of the professional or amateur status of the team, the coach and athletes are expected to set records, or bring home championships or medals to prove efficiency, competence, and superiority. Martens (1978) considers that

> the successful coach is one who conveys the values of time, the success of perseverance, the pleasure of effort, the dignity of humility, the worth of character, the power of kindness, the wisdom of honesty, the influence of example, the rewards of cooperation, the virtues of patience, and the joy of competition. (p. 308)

In the present study, the coach is considered to be a leader whose success in large part is to be reflected in the

success of her athletes in competition. For that reason, the subjects are those MRG coaches from across Canada whose athletes are most successful. It should be particularly revealing to study their motivational styles, and degrees of authoritarianism, as it relates to both team atmosphere (as it is perceived by both athletes and the coaches themselves), and to the age, experience, and other background factors of both groups.

Justification of the Study

Over the last decade the values of competing in sport have become of interest to a larger public including many girls and women. At the same time there has been a trend to increased enjoyment, as a means to increasing the span of involvement in sport. This idea has become almost a preoccupation of many researchers and practitioners: if involvement is fun and relationships are pleasant, people will remain active for longer periods of time.

However, why athletes participate in elite competitive sport is still an enigmatic issue to many coaches, administrators, fans, and even to many athletes themselves. As a result, it is not an easy task to measure the relative strength of the incentive systems that operate to sustain involvement in sport.

The Alberta IMI aims to evaluate the construct of incentive motivation in sport. It was specifically developed to assess sport situations. The instrument is

designed to provide "information on the strength of certain incentive systems for the athlete and on which incentives are most salient for the athlete" (Wood, 1980, p. 6). This information might be used constructively by the coach-athlete dyad to improve interaction and to provide the athlete with a better understanding of why he/she is involved in sport.

Leadership is of great practical importance today. An illustration of this importance is seen in the fact that it has been the subject of research in the field of politics, business, industry, the military, recreation, and sport. This research follows two traditions. The first is situational in nature and suggests that the theme of leadership is largely an "illusion": there are no leaders and followers, only situations that determine roles (Hogan and Schroeder, 1981). The second is anchored in traits, or personality characteristics, and holds that different traits may be important for leadership in different groups, and, therefore, some personality types make better leaders than others (Hogan and Schroeder, 1981).

In sport, where coaching is considered to be essentially an exercise in leadership, relatively little attention or study has been directed toward it. Gordon (1981, pp. 4-5), argues that not only national sport associations but also The Coaching Association of Canada, have given it inadequate attention. He suggests that the training manuals and coaching courses such organizations

have produced are based on assumptions that coaching behaviors are effective, and that coaches learn, presumably through experience, how to behave towards athletes in both stressful and non-stressful situations.

It is hoped that the present study might provide insights, useful in training coaches to plan more effectively and to relate to their athletes in ways that create and nurture motivation.

Purpose of the Study

The purpose of this study is to examine both the incentive motivations operating in elite MR gymnasts, and the coaching leadership styles of the female coaches of these athletes.

The topics examined in this study are the following:

1. To determine patterns of incentive motivation as measured by the IMI in elite MR gymnasts, ages 9-24, who are competing in group, individual, and both of these events.

2. To examine relationships between the individual coaching leadership styles and:

- coach authoritarianism
- team atmosphere
- coaching educational background
- coaching qualifications
- years of coaching experience
- cultural background
- marital status

- time spent on coaching or MRG related activities during the competitive year

3. To determine differences in how the coaches and their athletes perceive the team atmosphere.

Limitations

1. The present study employs a survey method. Therefore, the researcher is restricted to only one set of measurements, taken at one particular time.

2. The major limitation of this study refers to the definition of measurements. The writer accepts the inference that particular scales measure the particular motivational and leadership constructs.

Delimitations

1. The study samples include only the elite coaches and athletes who were participating officially at the 1981 Canadian MRG Championships.

2. The influence of parents on motivational patterns of athletes, and on athletes' perception of coaches has not been addressed because no suitable instruments exist for this purpose.

Definition of Terms

1. Incentive: "an incentive defines the character of a goal activity, which in turn is the basis for the goal-directed activity" (Birch and Veroff, 1966, p. 14)

2. Incentive motivation in sport: "a construct that is used to describe the motivation an athlete has to participate in sport resulting from the incentive values that are attached to various goals perceived as available through participation in sport" (Wood, 1980, p. 12). This construct is assumed to be measured by scores on the Alberta Incentive Motivation Inventory (IMI).

3. Elite MR gymnast: an athlete who trains at the Master level in individual events, group events, or in both of these events, and competes in National Championships.

4. Coach: an individual who assumes the technical and organizational responsibilities related to the functioning of a team.

5. Elite coach: a coach who trains elite MR gymnasts.

6. Coach's motivational style: refers to an underlying need structure which motivates the coach's behaviour in the role of leader (Fiedler, 1967). This construct is considered to be measured by scores on the Least Preferred Co-worker (LPC) scale.

7. Coach's authoritarianism style: refers to the measure of "relative amounts of authoritarian attitude and behavior of coaches as it pertains to athletic coaching situations" (Bain, 1973, p. 59). Assumed to be measured by scores on the Coach Attitude Behavior (CAB) scale.

8. Coach-team relations: refers to the degree to which the coach/athlete feels accepted by her team and is relaxed and at ease in her role (Fiedler, 1967). Assumed to be

measured by scores on the Team (group) Atmosphere (TA) scale.

II. REVIEW OF THE LITERATURE

A. Incentive Motivation

1. Introduction

The term incentive motivation first received direct attention in psychology as an expansion of Hull's idea that the organism's anticipatory goal reaction (rg) could be considered as an effective determinant of action (cited in Alderman, 1975, p. 3.1). Spence (1956) revised and elaborated the theory to include anticipation or expectancy of the goal as one of the fundamental determinants of molar action. He believed that anticipation may become conditioned to environmental stimuli (external) and proprioceptive stimuli (internal). Bolles connected anticipation with reinforcement, stating that "organisms can in some sense anticipate reinforcement, and that such an anticipation serves in some way to facilitate instrumental behavior" (1967, p. 331).

Atkinson and Feather (1966) defined an incentive as the "relative attractiveness of a specific goal that is offered in a situation, or the relative unattractiveness of an event that might occur as a consequence of some act" (p. 12). Many earlier studies of incentive motivation were conducted on laboratory animals. Spence (cited in Bolles, 1967, p. 367) assumed that incentive motivation is based upon goal response and it provides an additional element of control

over behavior. Yet other researchers (Mowrer, cited in Bolles, 1967, pp. 336-337) argued that incentive motivation is essentially emotional, and that what is called rg is very much like what is called hope. Young (cited in Bolles, 1967, p. 349) suggested that the incentive factor works because of "affective arousal", i.e. the animal likes sweet tasting substances, is affectively aroused by them, and the sweeter they are the more the animal is aroused. This affectivity determines consummatory behavior, provides the basis of the animal's motivation, and is the fundamental mechanism underlying learning.

Incentive value.

McClelland and his associates (cited in Cofer, 1972, p. 94) proposed a theory of motivation, similar to Young's but directed to human motivation. They assumed that motivated behavior takes the form of avoidance or approach to a situation or to a stimulus. The characteristics of the anticipation (eg. pleasure, displeasure) will dictate the approach to or avoidance of the situation or stimulus.

McClelland has emphasized that two important situational variables operate in typical achievement settings. The first is the extent to which the individual expects that his performance will be successful, and the second is how attractive that success appears to the person, i.e. how much incentive does it present to him? Alderman (1975) stated that a person's past experience in similar

situations will influence his expectancy of success in the current situation.

Incentive systems

Birch and Veroff (1966) considered incentives to be a source of influence on goal-directed behavior, along with availability, expectancy, and motives. Wood (1980) explained that the activities

> an individual engages in are influenced by the particular situations (availability); what the individual expects to derive from the activities (expectancy); the various incentive values that the individual attaches to the activities (incentives); and the individual's basic motives underlying these activities (motives). (p. 15)

Birch and Veroff developed a "paradigm of human motivation" that attributes most of an individual's significant recurrent (goal-directed) and consumatory (goal) behaviors to seven incentive systems: sensory, curiosity, achievement, affiliative, aggressive, power, and independence (Birch and Veroff, 1966). Each of these incentive systems has been manipulated in research studies. The findings generally agree that

> organisms typically confront development problems of regulating their bodily (sensory) experiences; reacting to new stimuli (curiosity); depending on contact with others (affiliation); reacting to frustration by others (aggression); evaluating their own performance (achievement); withstanding influence by others (power); and operating on their own (independence). (Birch and Veroff, 1966, p. 42)

Three of these systems - sensory, curiosity and achievement - are not necessarily directly related to

responses from other organisms and are therefore categorized as "asocial". The remaining four systems by definition depend directly on responses of other organisms and are therefore called "social" incentive systems.

The Alberta Incentive Motivation Inventory (IMI)

Wood considered that Birch and Veroff's classification of incentive systems is "most applicable for adaptation to specific situations such as sport" (Wood, 1980, p. 14). Alderman (1974), and Alderman and Wood (1976), used this classification of incentives to construct an instrument (IMI) for evaluating incentive motivation in athletes.

2. Theories of Incentive Motivation in Sport

In 1974 Berlin suggested that "the study of sport motivation is in the stages of infancy" (p. 17). She based her contention on the facts that very little was known about what factors influenced an individual to become involved in a sport, and what factors influenced the intensity and duration of commitment to continue.

Kenyon (1968a, 1968b) was one of the first researchers to propose a multidimensional model for analysing physical activities as a sociopsychological phenomenon. He identified six "subdomains" as most relevant in determining the instrumental value of physical activity for the athletes. The findings of his study showed high correlations exist between the catharsis, health and

fitness, and ascetic, and high independence for the social and aesthetic factors.

Alderman (1970), used the conceptual framework developed by Kenyon (1968a) to analyze attitudes towards physical activity of participants in ten different sports at the 1967 Pan-American Games. He found that both male and female athletes rated the aesthetic dimension of physical activity as the most important, followed by social experience, and catharsis.

Watson (1976) conducted a study among Little League Baseball players to examine

> the extent to which children's games retain their intrinsically rewarding properties when their players are not the rule makers or interpreters of game outcomes, but are subject to the coordinating role of adults who include extrinsically rewarding properties into the game. (p. 93)

Keene (1977) studied the incentive motivation and locus of control in Australian basketball players. He employed the Competitive Sport Attitude Performance Schedule (an early variant of the Alberta IMI) for evaluating incentive motivation, and the Rotter (1966) test for locus of control. He concluded that the difference in performance in basketball in Australia from state to state is a result of the variation in incentive systems of excellence, prestige/esteem, power, and aggression. Keene speculated that these four incentive systems, together with differences in locus of control, set the levels of the probability of success. For him ". . . an increase in aggressive motivation will cause positive increases in excellence

incentives . . . and positive increases in Locus of Control" (1977, p. 19).

Butt (1979) considered that sport motivation evolves on four levels (Figure 2). On each level different constructs are identified. From this theoretical perspective she developed the Sport Motivation Scale (SMS) with the aim of using it in furthering the study of group psychological factors in sport in order to provide practical insights to coaches and athletes.

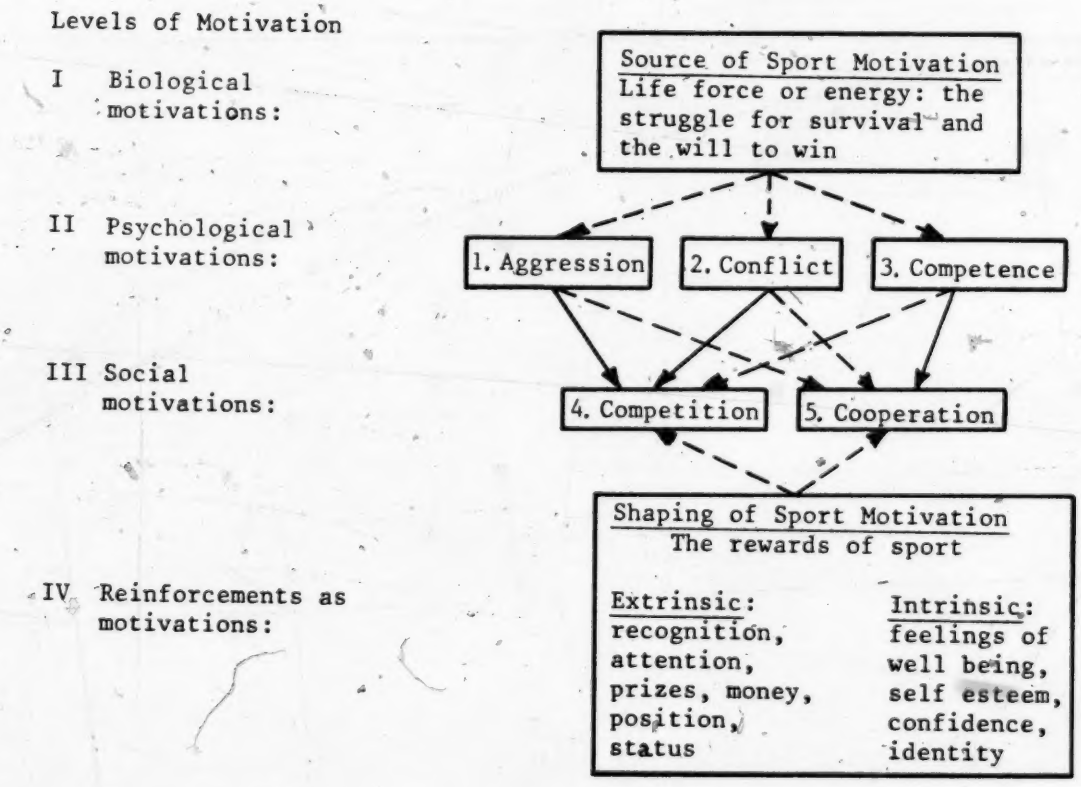

Levels of Motivation
I Biological motivations:
II Psychological motivations:
III Social motivations:
IV Reinforcements as motivations:
Source of Sport Motivation
Life force or energy: the struggle for survival and the will to win
1. Aggression
2. Conflict
3. Competence
4. Competition
5. Cooperation
Shaping of Sport Motivation
The rewards of sport
Extrinsic: recognition, attention, prizes, money, position, status
Intrinsic: feelings of well being, self esteem, confidence, identity

Figure 2. The Motivational Components of Sport. (Source: Butt, 1979.)

Whittall and Orlick (cited in Wood, 1980) developed the Sport Specification Inventory (SSI) to determine the satisfaction athletes derive from their participation in sport. The authors identified six sources of sport satisfaction: sport/game, practice, coach, teammates, opposition, personal ability, and performance. The results of their study suggested the possibility of the existence of a common satisfaction factor as well as distinct areas of sport satisfaction.

Garvie (1979) studied high school athletes to determine the "focus of motivation in sport". He employed twenty different scales, among which were: basic needs, locus of control, self-esteem, personal orientation, and sport incentive motivation. From the analysis of responses to these scales he derived five factors which were interpreted to represent the focus of motivation in sport. These were labeled: affiliation, principle, self versus task, provincial, and respect versus security (p. V). The concept of focus of motivation implies a "dynamic-holistic" model (Garvie, 1979, p. VII), and was viewed by its author as useful particularly in the study of practical sport settings. Of particular importance to the present study is the fact that Garvie employed the Alberta IMI. He found that the factor labeled "principle" was loaded positively on excellence incentive. He also identified power, stress, and success incentives as components of the factor labeled "provincial". Affiliation incentives loaded positively on

the factor labeled "affiliation", and success loaded positively on the factor labeled "self versus task".

Garvie (1979) also found that sport intrinsic motivation correlated with six of seven sport incentive motivation scales. Specifically, positive relationships with excellence and stress, and negative relationships with power, success, aggression, and affiliation.

Wood (1980) conducted a study among a sample of male and female athletes in swimming and basketball. Her study had two purposes: to assess the construct validity of the Alberta Incentive Motivation Inventory (IMI), and to determine if differences existed in incentive motivation on any of the seven incentive systems for male and female athltes competing in basketball and swimming. She reported no significant differences on the IMI subtests of excellence and stress for male and female athletes in basketball and swimming. Males and females in basketball scored significantly higher on the subtest on independence, and aggression, than males and females in swimming. Male athletes in basketball and swimming scored significantly higher on the subtests of power, success and aggression than female athletes in both sports. Female swimmers scored significantly higher on the subtest of success than female basketball players. Male basketball players scored significantly higher on the subtest of aggression than male swimmers. Finally, female basketball players scored significantly higher on the subtest of affiliation than male

basketball players.

3. Current Views of Incentive Systems in Sports

The original seven incentive systems defined by Birch and Veroff (1966) were re-conceptualized by Alderman and Wood (1976) and Wood (1980-1981) to accommodate the particular- situations encountered among the athletes they studied. Four of the 1966 systems were not modified: affiliative, aggressive, power, and independence. But Birch and Veroff's sensory and curiosity systems were fused into, first arousal (Alderman and Wood, 1976), and later into stress (Wood, 1980). The original achievement system was subdivided into excellence and esteem in the 1976 study, and Wood (1980) later defined esteem as success. [1] The present writer considers that the most useful conceptualization consists of the four 1966 systems: affiliative, aggressive, power, and independence: along with the three that have evolved through the work of Alderman and Wood, namely stress, excellence and success.

a. Excellence Incentive System

Wood (1980) stated that "competition against a standard of excellence incentive system is the . . . focal point of the excellence incentive system" (p. 33). She suggested that striving for success as opposed to a standard of excellence implies need within the individual to excel at

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[1] See summary diagram on page 4

something, or to express competence.

Birch and Veroff (1966) considered the achievement incentive system as defined by "goal-activity centering on successful competition with standard of excellence applied to an organism's performance" (p. 56). For them achievement is assessed in relation to the goals an individual has set or accepted for himself. An internal goal would represent the standards an individual sets for his own capabilities, as opposed to external goals where the individual relates his performance to potential performances by others, or to established records.

Wood (1980) states that athletes ought to identify their own internal "standards of excellence" as an avenue towards establishing realistic appraisals of their capabilities. One assumes that the coach, and other significant others, have a key role in aiding this process of personal goal identification in most but not all cases. With this approach, the expectation is that athletes would be better able to define and experience success in their own performances, and avoid inappropriate identification of some outcomes as failure.

To conclude, the literature related to the excellence incentive system provides some similarities among different theories. Regardless of the label different authors use (achievement mastery - Watson, 1976; principle factor - Garvie, 1979; competence - Butt, 1979; excellence incentive system - Alderman and Wood, 1976), the concept of excellence

incentives is characterized by the opportunity for an athlete to encounter the achievement of excellence in the performance of a particular task.

b. Power Incentive System

Birch and Veroff (1966) defined the power incentive as the "condition of obtaining the means of influencing another person's decision" (p. 76). They differentiated direct attempts at exercising power over a person, from indirect attempts that establish the person in a power position. They offer the important observation that power incentive is not always directly proportional to "powerful" behavior. In the power incentive the ability of person A to change person B's opinions and attitudes interacts with the ability of the same person A to withstand person B's influence.

Birch and Veroff (1966) stated that, not surprisingly, power incentives are interrelated with other incentive systems (e.g. achievement-excellence, aggression). Further, that power is an assertive, masculine, form of activity, and therefore, females may be attracted to use more indirect means of acquiring power (e.g. affiliative persuasive responses).

McClelland (1970) considered power to take two forms: personal, and socialized. The personal or negative face of power represents an acute need to win in direct encounter with an opponent, while the socialized or positive face of power is characterized by a concern for group goals. Hence,

an orientation toward socialized power is seen to be a prerequisite to "effective leadership" (Wood, 1980, p. 49).

To summarize, power incentives in athletic settings are revealed by the opportunities for an athlete to influence, change, and control the opinions and attitudes his colleagues or superiors have towards him (Alderman and Wood, 1976). The second type of power incentive is characterized by success in resisting the effects of others to influence attitudes, beliefs, and behaviors. Each would seem to be relevant to sports studies.

c. Stress Incentive System

The stress incentive system was identified by Alderman and Wood and is considered to be characterized by incentives that "revolve around opportunities for excitement, stress, and interesting experiences, particularly in terms of novelty, uncertainty, complexity, and dissonance" (Alderman and Wood, 1976, p. 171).

These ideas represent an integration of two of the seven incentive systems defined by Birch and Veroff (1966): sensory (as depending on the stimulation of sensory experiences: tasting, seeing, hearing, smelling, feeling), and curiosity (as focusing on the perception of changes in stimulation). Alderman and Wood assert that perceptual responses (sensory experiences) are necessary for the operation of the curiosity incentive. Also of importance are the well established facts that individuals differ in

their needs for a range of sensory stimulation, and that individuals vary in the optimal stimulus changes which will elicit the curiosity incentive system only.

Berger (cited in Wood, 1980) conducted a study among athletes participating in uncertain sports, and high harm sports, as contrasted with certain sports and low harm sports. She found that athletes who participate in uncertain sports had a significantly higher need for stimulation than the others. Support for this position is provided by Donelly (1978) who also concluded that those in sports where uncertainty is high had significantly higher mean needs for stimulation than those in sports where certainty is high.

It is of importance in the present study to emphasize that the sensory and curiosity incentive systems described by Birch and Veroff (1966) were merged by Wood into one system, labeled stress. As it pertains to athletic environments, this concept of a stress incentive system has similarities to intrinsic motivation (Watson, 1976). It also could be considered as one component of Garvie's (1979) provincial factor.

d. Independence Incentive System

Birch and Veroff (1966) define independence as "accomplishing an activity without help" (p. 80). They consider that independence may be related to achievement, power, or affiliation goals and, depending on situational

factors, these incentives could overlap. The operation of the independence incentive system would be seen when a person resists efforts of others to provide assistance in any given process. They also contend that an emotional investment in independence can often designate a negative affiliative incentive. As a consequence of this type of incentive a person may be interested in independence as a means of preventing affiliative dependence.

In further examination of interaction between incentives, the same authors state that individuals who achieve independence most easily are those who are competent. However, a conflict may be created between the choice of being independent and the successful accomplishment of a task that requires assistance from others. They consider that confidence in individual effectiveness could be a necessary psychological response if an independent activity sequence is to be selected over a non-independent one.

Alderman and Wood (1976) characterized the independence incentive system as "opportunities to do things on one's own without the help or criticism of other people" (p. 170). If one were operating in a truly independent mode it is unlikely that "criticism of (from) other people" would carry much weight. Indeed, it is an important characteristic of independent people that they pay little or no attention to it.

e. Success Incentive System

Wood (1980) differentiated between the excellence incentive systems (the attractiveness to the individual to improve personal skills), and the success incentive system (the need for social recognition). She considers that for athletes with dominant success incentives the quality of their performances is irrelevant, as long as they win, whereas to the athletes motivated by excellence incentives, the perfection of their performance (as perceived by other people and by themselves) is most important.

Alderman (1975) takes the position that 1. competence, 2. sense (realization) of effectiveness, and 3. (traditional) masculine identity are the main response systems which dominate the success environment of people. The athlete, in his opinion, should be able to evaluate the types and levels of competence required to perform an activity in order to experience success and avoid failure. They also should be guided by their coaches towards sensing the potential for their own effectiveness, thus increasing the likelihood of successful performance. The question of masculine identity has been a stigma for many women athletes for many years and the writer believes it has been a significant problem for females as opposed to male athletes for whom masculine identity is an appropriate requirement for success. Wood (1980) identified commonalties between the success incentive system and the "extrinsic reward" (Watson, 1976), and the "satisfaction of adjustment and

recognition" (Berlin, 1974) classifications.

f. Aggression Incentive System

Birch and Veroff (1966) defined the aggression incentive system as a "condition of intentionally injuring another organism, with the greater the injury, the greater the incentive" (p. 70). Alderman and Wood (1976) state that aggression incentive in sport is characterized by "opportunities to injure, subdue, intimidate, or dominate other people" (p. 171). They further contend that aggression incentives are stimulated by a condition in which an organism recognizes that an object or organism has directly frustrated him or has been related to some frustration that he has experienced (p. 70).

Layman (1970) delineated two types of aggression in humans: instrumental (attack in which the major objective is attainment of a reward), and reactive (attack in which the major objective is the injury of the individual against whom the attack was directed). She suggested that in athletic settings the usual type of aggression observed is instrumental because it is usually aimed at attaining goals.

Frodi et al. (1977) categorized aggression as physical versus verbal, and direct versus indirect, which resembles Birch and Veroff's (1966) classification of direct physical confrontation of the aggressive incentive and indirect, usually verbal affront to a person (p. 75). Wood (1980) found similarities between the aggression incentive system

as defined by Alderman and Wood (1976) and the "aggression" component of Butt's (1979) sport motivation model.

g. Affiliation Incentive System

Birch and Veroff (1966) suggested that affiliation incentive is "the attraction to another organism in order to feel reassured from the other that the self is acceptable" (p. 65). Alderman and Wood (1976), focusing their definition on sport settings, characterized affiliation "as incentives that exist in sport that revolve around opportunities to attain, maintain, and consolidate warm, personal relationships with other people" (p. 171).

The most powerful affiliation incentives may be negative: fear of rejection and fear from social isolation. Birch and Veroff (1966) evaluated the fear of rejection as such a powerful incentive that it can lead individuals to withdraw from social contact. Alderman (1975) viewed this from the opposite side of the fence in stating that being isolated from people creates a special kind of anxiety which drives individuals to seek affiliation with groups of their own kind.

Alderman (1975) further considers affiliation a life-time incentive, with changes in its content over different stages of life: children need affiliation because of strong drives towards self-education. Groups with homogeneous composition in age, skills, and sex would appear to be environments in which individuals could satisfy their

attraction to other people. For adults who have developed self-confidence in their own group, affiliation incentives may become less salient, or could be replaced by stronger, more relevant incentives (eg: achievement).

Similarities are apparent between the affiliation incentive system as described by Wood (1980), Berlin's (1979) model of motivation in sport, and Watson's (1976) "social reciprocity" component of game attraction for young athletes.

B. Leadership Style

1. Theoretical Framework for the Study of Leadership

> *Everybody* has thought and written about leadership: military men, journalists, politicians, novelists, dramatists, poets, feminists, financiers, physical scientists - everyone, for indeed leadership, as a ubiquitous aspect of interpersonal behavior, is the concern of every man and woman. It is found everywhere - in democratic as well as totalitarian societies, among primitive as well as civilized people, among children, and even among animals. (Petrullo and Bass, 1961, p.XXVIII)

It can also be said that almost every author who has studied leadership has worked from a unique definition. Although favoring a definition of leadership in term of specified leadership behaviors, the author takes the position that one must avoid a concept of leadership that implies a restricted set of behaviors. As Carter (1958) points out ". . . we have expected studies dealing with leadership in pre-school children to yield results which were compatible with combat soldiers" (p. 24).

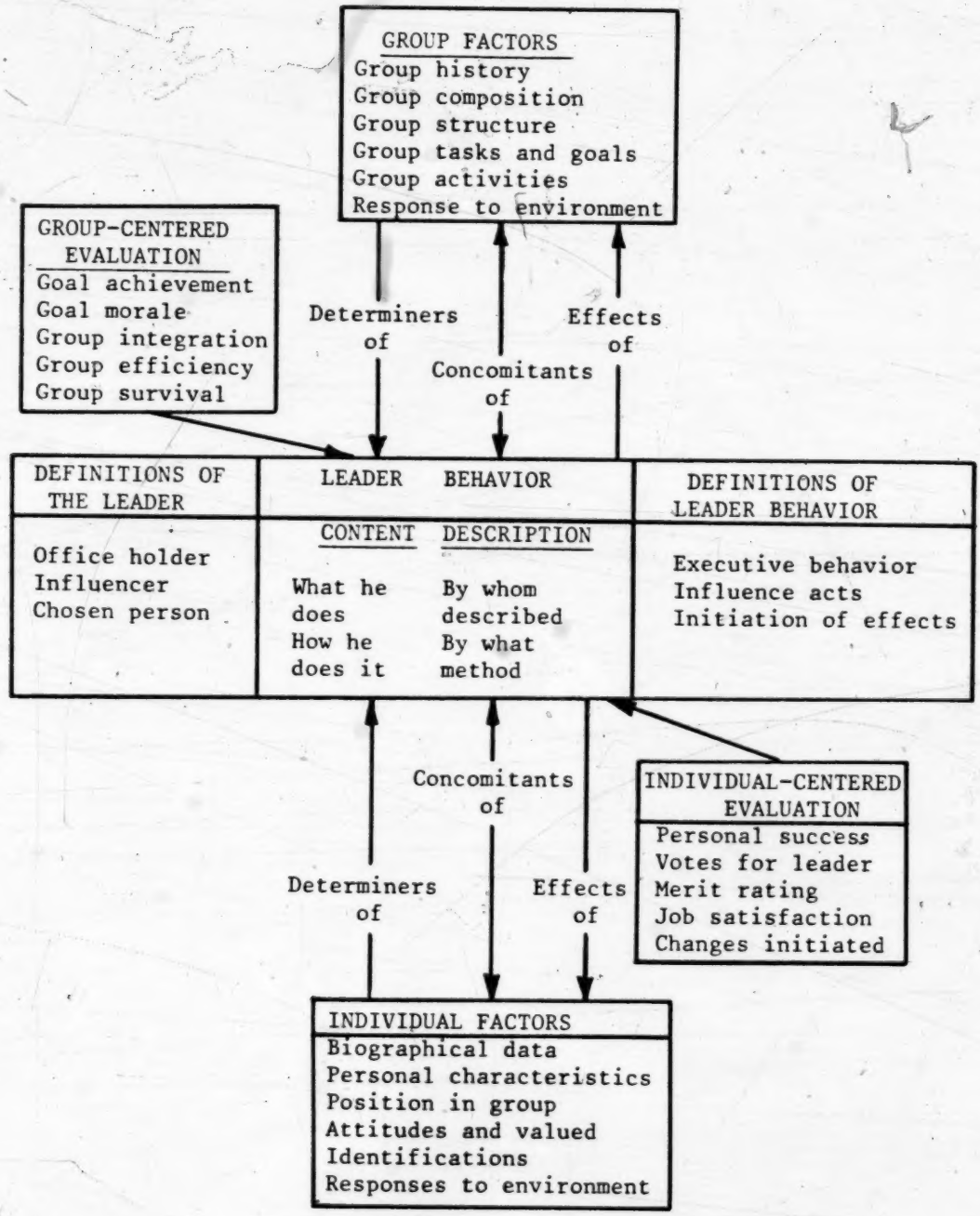

Figure 3. Paradigm for the Study of Leadership. (Source: Bass, 1960.)

It is useful to represent at least some of the most important interacting factors involved in leadership in order to avoid the temptation to over simplify. Stogdill and Coons (cited in Bass, 1960) developed a comprehensive model that may be used to illustrate some key relationship of interest in the present study (Figure 3). All of the elements shown in the model represent very significant classes of events in the coaching process.

A good many, if not all, leadership studies in industry, teaching, and coaching, can be related to the model, and advances through research over the past several decades have cast new light on many of the relationships it illustrates. For example, leader behavior understandably occupies a central place in the Stogdill and Coons paradigm. Latham and Saari (1979) examined the importance of supportive behavior by an authority figure (leader) when groups set goals. They found that supportive behavior resulted in the group setting higher goals than when behavior was not supportive. A similar pattern was found earlier by Schacter et al (1961) who conducted a study of leader behavior in an industrial setting. In a recent study, supportive leader behavior was also found to influence positively group arousal and cohesion, especially in small and newly formed groups (Green and Schriesheim, 1980).

Another variable which received considerable attention in the 70's was the effect of the gender of the leader.

Little difference was found in the behavior of male and female leaders, as perceived by members of their groups (Schneier and Bartol, 1980). Equally important, the performance levels of the groups was the same, regardless of the gender of the leader. Differences surfaced only when perceived behavior of male and female leaders was compared to their non-leader counterparts (Schneier and Bartol, 1980, pp. 341-345).

To summarize, it is important for researchers to treat leadership as a dynamic process. Any substantial variation in the nature and content of any of the elements in the Stogdill and Coons paradigm would presumably be reflected in a measurable way in the performances the leader was concerned with producing. Finally, meaningful interpretation of the effectiveness of leadership would require that the environment in which it is studied be as natural and realistic as possible.

2. Dynamics of Leadership

The dynamics of leadership deals with the description of leadership, focusing on: a) personality dynamics, b) social perception, c) patterns of behavior, and d) leaders and followers.

a. Personality dynamics

Researchers such as Cowley, Henry, and Bell and French (Browne and Cohn, 1958), and Stogdill and Mann (Gibb, 1969),

conducted studies related to the personality characteristics of leaders. The most prominent findings revealed that the results would hold only for leaders in the same type of situations as those tested (Cowley, 1958). Henry saw the personality characteristics of the leaders as a reflection of both the socially stereotyped conception of the leader and of some underlying similarities within personality structures of leaders. Bell and French's study indicated that the situational approach to leadership would assume little consistency for an individual taking the leader role in various situations, while the personality or trait approach would assume consistent leadership status from one group to another.

Stogdill (Gibb, 1969) found capacity, achievement, responsibility, participation, and status to be relevant factors associated with leadership. He stated that leadership appears to be

> a working relationship among members of a group, in which the leader acquires status through active participation and demonstration of his capacity for carrying cooperative tasks through to completion. (p. 127)

In his comprehensive review of leadership Mann (In Gibb, 1969) covered studies conducted over a period of almost six decades (1900-1957). He concluded that leadership is highly significantly related to intelligence, adjustment, and extraversion. Also, dominance, masculinity, and interpersonal sensitivity were found to be positively related, while conservatism was found to be negatively

related to leadership.

b. Patterns of behavior

Extensive research has been devoted to the study of patterns of behavior. Levin et al (Browne and Cohn, 1958), studying the effects of leader behavior on the behavior of members of boys clubs, classified leaders' behavior as autocratic, democratic, and "laissez-faire". Criticism of this classification was reported by Browne (Browne and Cohn, 1958), who considered that the terminology was misleading for the leadership situations to which it applied.

Berkowitz (Browne and Cohn, 1958) suggested that if the leaders' behavior is related to the expectations of the group, then a "democratic" style of leadership may not always be the most effective style since such groups often expect an "autocratic" style of leadership. Show (Browne and Cohn, 1958) related authoritarian and nonauthoritarian leadership to performance and satisfaction in the group. Stogdill et al. (Browne and Cohn, 1958) analysed to what extent leadership behavior is similar for similar positions in different types of organizations. Of importance to the present study are their findings that groups of persons in similar specialities in different kinds of organizations will exhibit similar patterns of performance.

Hollander (1964) conducted a study in a military setting using cadets as subjects and ended up with the paradoxical result that: authoritarians were less acceptable

as leaders to their fellow cadets than were nonauthoritarians. Had Hollander chosen his sample from a population with longer service, one wonders what the results might have been.

Fiedler (1967) divided leadership behavior into two distinctive clusters, one labeled autocratic, authoritarian, task-oriented, initiating; and the second, democratic, equalitarian, permissive, group-oriented, considerate. He postulated that leadership behavior is closely related to group performance.

> The task-oriented type of leadership style is more effective in group situations which are either very favorable for the leader or which are very unfavorable for the leader. The relationship-oriented leadership style is more effective in situations which are intermediate in favorableness. (p. 13)

c. **Leaders and followers**

The followers group are considered as determiners of the leader role, with the organization of the group and the nature of the followers as important variables.

Hollander and Webb (Hollander, 1964) examined differences between good followers and good leaders in terms of sociometric data. Their results indicated that, 1) leadership and followership nominations are quite consistent with each other, and, 2) that leadership and followership nominations are, to a considerable extent, independent of the friendship choice of the nominators.

Hollander (Gibb, 1969) pointed out that within a group, an interpersonal assessment is established through social interaction. If an individual fulfills the expectancies of a group at one stage, he may emerge as the leader at the next stage.

Gibb (Gibb, 1969) observed that in addition to leaders and followers, other types coexist, namely: apathetic, indifferent, and acquiescent members. He suggested that leadership requires a leader-follower coalition for effectiveness, and that followers may be seen as members of a leading team, even though their own personal influence over others may be undetectable.

3. Types of Leadership

Leadership differences in guiding, assisting, or supervising groups' activities led to interest in identifying patterns or types of leaderships. Studies have been conducted in various fields, including sport.

Lindgren (1954) differentiated four common types of leadership: the paternal figure, the manipulator, the expert, and the artist in human relations. Cattell and Stice (Browne and Cohn, 1958) also identified four categories of leaders, somewhat different from Lindgren's. They were: problem solving leader, salient leader, popular leader, and elected leader. The researchers selected these classifications because they were primarily concentrating on personality characteristics as described by the 16

Personality Factor Questionnaire. But it is clear that neither these categories, nor those offered by Lindgram, are mutually exclusive, so can be of little real value.

Haiman's (1951) criteria of defining types of leadership was based on the necessity of manifestation of various kinds of authoritarianism within democratic leadership. The types of leadership he proposed ranged from complete authoritarian to complete democratic: the executive, the judge, the advocate, the expert, and the discussion leader.

Percival (1971), using an analogy between leadership and coaching, divided the types of coaching behavior into 25 positive and 15 negative types. He had the coaches as well as their athletes rate the coach's type of leadership. Among the positive types of coaching behavior he found the supporter, the shrink, the tourist and Mr. Cool. At the other end of the scale were the insulter, the shouter, Hitler, General Custer, and the hero.

Straub (1978) also devoted some of his research to the analysis and classification of the leadership types in sport. The hard driver, the thoughtful persuader, and the friendly helper were the classifications he found most representative to the coaching leadership types. Tutko and Richards (1971) classified the types of coaches into: hard nosed, nice guy, easy going, driven, and business like. Danielson et al. (1975) perceived this classification as having two bipolar (hard nosed and nice guy; easy going and

driven) and one unipolar (business like) dimension of coaching behavior.

4. Leadership Styles

Variations in the approaches of different researchers can be seen in the way they analyze leadership style on the basis of interpersonal perception. Bass (1960), Cooper and Payne (1972), and the Coaching Association of Canada (1979) identified three psychological orientations in coaching: self-orientation, task-orientation, and interaction or social orientation. Bass (1960) conceived these orientations as being related to the evolution of the group:

> Orientation changes with the aging of a group in existence over a long period of time. Members tend to be attracted to each other initially to complete some tasks they cannot handle alone. Then the groups tend to move from task orientation to a concern with interaction as an end to itself. Finally, self-orientation comes to the fore prior to the disintegration of the group. (p. 451)

A similar belief underlines the Life Cycle Theory which assumes a relationship between an effective style of leadership and the level of maturity of the followers. The theory, originally proposed by Hersey and Blanchard (1977), contends that as the level of maturity of the group increases in terms of accomplishing a specific task, the leader should begin to reduce his task-behavior and increase relationship behavior.

Fiedler (1967, 1969, 1976, 1979) utilised a different approach in analysing leadership style. His contingency model proposes that a leader's performance is contingent on

two interacting factors, a) the individual's goals and needs or motivational structure and, b) the degree to which the situation provides the leader with control and influence over the outcome of the task (Fiedler and Mahar, 1979, p. 248). Fiedler made the distinction between leadership behavior, which was seen as changing from situation to situation, and leadership style, perceived as constant. From his perspective, leadership style refers to the leader's (coach's) consistency of goals or needs over different situations.

Within the concept of leadership style, Fiedler (1979) considered only two dimensions of value: task oriented and relationship oriented. He maintained that individuals who describe their least preferred co-worker in rejecting and negative terms (low LPC) give higher priority to the task than to interpersonal relations and are called task motivated. Individuals whose judgment of another person is relatively uninfluenced by his value as a co-worker (high LPC) tend to be more concerned with interpersonal relations and are considered to be relationship motivated.

This particular approach to describing leadership styles was of substantial value in the present study. It was adopted because the writer intended to identify trends of leadership styles among its group of respondents.

5. Sport Leadership

The increase of level of performance and the enjoyment of participation in sport appear to be major concerns of sport practitioners, administrators, and researchers today. As an important variable in sport settings, leadership style accordingly receives considerable attention. Beside scales such as Supervisory Behavior Description Questionnaire (SBDQ) developed by Fleishman (1957), Leader Behavior Description Questionnaire (LBDQ) developed by Halpin (1957), Least Preferred Co-worker (LPC) and Group Atmosphere (GA) scales developed by Fiedler (1967), new scales adapted to sports environments were introduced: Coach Behavior Description Questionnaire (CBDQ) developed by Danielson (1975), Coaching Behavior Assessment System (CBAS) developed by R. Smith et al. (1977), Coaching Behavior Observational System (CBOS) developed by M. Smith (1978), and the Leadership Scale for Sports (LSS) developed by Chelladurai and Saleh (1980). It is important to emphasize that each of these scales is a reflection of differing approaches to leadership and the description of behavior.

Universal trait approach. Representative studies of this approach were conducted by Carter (1964), Ogilvie and Tutko (1966) Scott (1969), and Hendry (1968,1974). The findings indicated that coaches could be described by a unique set of dispositions. Carter's (1964) sample revealed a predominant mesomorphic component in physical education teachers. Ogilvie and Tutko (1966) examining the

personality profiles of baseball, basketball, football, and track coaches reported that coaches, as individuals, are highly success-driven, dominant, organized, conscientious, emotionally stable, and persevering.

Horwood (1979), commenting on the Ogilvie and Tutko findings, noted that these coaches were characterized by low interest in the dependency needs of others, leading to inflexibility, and secondly, by extreme conservatism, resulting in a dislike for change and experimentation.

Similar findings were reported by Hendry (1968, 1974), who described his sample of coaches as bright, driving, aggressive, dominant, calm, and able to handle emotions. He also noted that the older coaches displayed relatively high levels of anxiousness and insecurity.

Some American researchers have viewed coaches as possessing extreme negative personality traits. Massengale contended that coaches

> as a group are aggressive and highly organized, seldom paying attention to what others say. They display unusually high psychological endurance, persistence, and inflexibility. Coaches . . . tend to be very conservative politically, socially, and attitudinally. (in Sage, 1980, pp. 111-112)

Scott (1969) argued that "the typical (white american) university coach is a soulless, back-slapping, meticulously groomed, team oriented, efficiency expert. . ."(p. 7). This description agreed with Tutko and Richards (1971) who suggested that most coaches believe in strong discipline, rigidity of rules, extrinsic motivation, and an impersonal attitude towards their athletes.

Scott (1969), who called for an "athletic revolution", directed his criticism towards the fact that ". . . for most coaches, the athlete is significant only to the extent that he can contribute to a team victory" (p. 61). Sage agreed with Scott's point of view, stating that "many coaches have tended to view team members as objects in a machine-like environment" (1973, p. 36). He noted that this "leadership strategy" bears a strong resemblance to the one employed by the scientific management movement, which emerged from the studies of Frederik W. Taylor. Sage further implied that coaches who work in an increasingly institutionalized and codified team organization, tend to structure their relations with the athletes along authoritarian lines. Penman, Hastad and Cards (1974), brought support to Sage's argument, conducting a study among high school basketball coaches. They found ". . . that the more successful coaches were more authoritarian than the less successful coaches" (p. 156).

Contrary findings were reported by Bain (1973). He concluded that coaches of football and basketball teams ". . . in the secondary school systems in Edmonton, Alberta, Canada, are not highly authoritarian in specific measure of general and right wing authoritarianism" (p. 111). The discrepancy between the harsh view of coaches provided through American studies, and Bain's Canadian description, may be a reflection of cultural differences.

Sage (1980) noted that there is a dearth of research about female coaches. He cited four studies (Widdop and Widdop, 1975; Clark, 1976; Stanek, 1977; Lipkovich, 1977) which revealed that aspiring female physical educators were higher than regular classroom teachers on warm-heartedness, mental capacity, enthusiasm, perseverance, venturesomeness, imagination, shrewdness, self-sufficiency, self-image, exhibitionism, dominance, and social presence, while being lower on affiliation, and patience.

Universal behavior approach. Research based on this frame of reference is limited. The most prominent edition (Carron, 1980) was concerned with the identification of behaviors universally exhibited by leaders across all leadership situations.

Studies by a number of workers all cited in Gordon, (1981), failed to support the contention that coaching behavior can be considered universal. On the contrary, a new trend, that coaches behavior should be regarded as appropriate only to the specific content of the activity and the situation when the activity occurs, is on the rise.

Situational trait approach. The most relevant theory which would apply to this approach is the Contingency Model, developed by Fiedler (1962, 1967, 1972). Konar-Goldband et al. (1979) observed that

> the model (Fiedler's) views group performance as a factor of the interaction between leadership style and situational favorableness. Specifically, the theory predicts that groups with task-oriented leaders do well in situations that are extremely favorable or unfavorable, while groups with

> relation-oriented leaders do well in situations that are moderately favorable. (p. 401)

The leader's motivational style is measured by the Least Preferred Co-worker (LPC) score which is obtained by asking the respondent to think of all those with whom he has ever worked, and then to describe the one person with whom he would work least well. The respondent who describes his least preferred co-worker in relatively favorable terms (high LPC) is basically motivated to develop close personal relations with others; the respondent who describes his LPC in unfavorable terms (low LPC) is basically oriented toward the accomplishment of a task (Fiedler, 1972, p. 114). Naylor (1976) observed that different researchers regarded Fiedler's LPC scale as a measure of social distance, a measure of task-oriented and person oriented motivational styles, and finally, a measure of the leader's ability to differentiate his perceptions and evaluations of the interpersonal environment.

Due to its attractiveness, the model has been extensively used by researchers over the last two decades. The empirical status of the model has been questioned by various researchers cited in Konar-Goldband et al, (1979). They argued that the available evidence did not support the validity of the contingency model. Gordon (1981) found that interpersonally oriented coaches were most effective, which is obviously at odds with norms proposed by Fiedler. To further question the validity of Fiedler's proposals, studies conducted by Naylor, 1976; Bird, 1977; Horwood,

1979, did not produce supportive evidence for the model.

On the other hand are the reviews authored by Fiedler and his associates. Konar-Goldband et al. (1979) reviewed a group of studies, examining the validity of the LPC scale and found support. Low LPC leaders, in these studies, were found to have more effective groups than high LPC leaders.

Some studies in sports environments have employed Fiedler's model: Fiedler, 1954; Danielson, 1974; Inciong, 1974; Naylor, 1976; Bird, 1977; Horwood, 1979; Konar-Goldband et al., 1979; Gordon, 1981. Findings from these studies are equivocal and the present writer considers that a need exists for further studies to clarify the applicability of Fiedler's ideas to leadership in sport.

Situational behavior approach. House's Path Goal Theory and Hersey and Blanchard's Life Cycle Theory are the most dominant theories employed by researchers concerned with explanations of the relationships between leader behavior and the motivation of the followers at different levels of situational favorableness. Vos Strache (1979) reviewing their work, proposed that leaders should increase the number and kinds of rewards available to subordinates. In addition, the leader should provide both guidance and help to subordinates by clarifying realistic expectations and reducing barriers to the accomplishment of valued goals.

Chelladurai and Haggerty (cited in Gordon, 1981) have adopted Vroom's model to sports contexts and proposed three types of decision styles: (a) autocratic: coach alone makes

the decision, (b) participative: the group including the coach as a member arrives at a decision, (c) delegative: the coach allows one or more members of the group to make the decision.

The life-cycle theory of leadership suggests that leader behavior, to be effective, must change from high structure in the task to low emotional leadership as the followers mature. The changes are described as being staged in four levels from (a) high task, low-relationship to (b) high task, high-relationship to (c) high-relationship, low-task to (d) low-task, low-relationship leadership (Vos Strache, 1979). Mountjoy (1980, 1981, p. 15) states that these stages evolve from "(a) a telling to (b) a selling to (c) a participating to (d) a delegating style".

Studies of importance were conducted by Danielson (1975) and Vos Strache (1979). Danielson's study of leadership in minor hockey revealed that increased relationship oriented behavior from coaches was positively related to team performance and effectiveness across all levels of favorableness, which is not supportive to the Life Cycle Theory. Vos Strache (1979) investigated the relationship between players' perceptions of ideal and actual leadership behavior, team performance outcome, skill level, and educational level. The findings of her study, like Danielson's, did not support the Life Cycle Theory but did support the path-goal theory. She demonstrated that losing coaches may not have clearly identified the path to

success for their team members.

Interactional Approach. The interactional approach has attracted increasing interest over the last few years. Lanning (1979) believes this is a consequence of the appearance of new social movements. For example, the movement for individual rights, student rights, women's rights, athlete rights. The coach is no longer the unquestionable "boss" in the athletic program. Lanning (1979) observed that

> when athletes no longer are required to subjugate their personality to that of the coach, then the interaction of the coach and athlete personality becomes of critical importance to the success of the athlete and to the overall success of the athletic program. (p. 263)

Once the interaction effect become a focus of attention, research approaches were needed to describe and evaluate it. Chelladurai (1980) proposed a Multidimensional Model of Leadership, which "specifies that the effectiveness of leader behavior (i.e. coaching behavior) is contingent on its congruence with the preferences of the members as well as the dictates of the situational characteristics" (p. 35). Based on this model he and his associates developed and refined the Leadership Scale for Sports (LSS). A five-factor solution was selected as the most meaningful.

These factors were labeled:

1. Training and Instruction	represent a task factor
2. Democratic Behavior 3. Autocratic Behavior	represent decision style factors
4. Social Support and 5. Positive Feedback	represent motivational factors

Yet another group of researchers (Curtis, Smith and Smoll, 1979) developed a "mediational model of leadership in athletics situations" (p. 392). The scale these researchers created to test the model is labeled the Coaching Behavior Assessment System (CBAS) and consists of 12 classifying categories of coaching behavior. The categories are divided between:

1. Reactive behavior:

- response to good performance,
- mistakes,
- misbehaviors and,

2. Spontaneous behaviors:

- self initiated that may be relevant or irrelevant to the game.

In one recent study, Smith et al. (1979), in addition to using the CBAS, decided to interview the athletes in their homes. They aimed at obtaining measures of their perception and recall of their coaches's behaviors and of their evaluative reactions to the coach, teammates, and other aspects of their athletic experience.

Relevant to the present discussion is Gordon's (1981) observation that Fiedler's Contingency Model could be described as interactional: ". . . leadership effectiveness is dependent upon the interaction between the rigidity or structure of the social context in which the power is exerted and the degree to which the leader is task or people oriented" (p. 93).

6. Summary

It is clear that leadership in sport is a dynamic process. The study of leadership has evolved from the early concern with a unilateral, universal-trait approach to the present emphasis on complex interactional approach in a relatively short span of years. It appears that organized athletic experiences depend upon a host of factors and that research is now attempting to consider these factors within their complex interaction. Future research will undoubtedly seek information on the adequacy of the existing theories of leadership as approaches to explaining coaching behavior.

III. METHODS AND PROCEDURES

A. Participants

Two different groups of respondents were involved in this study.

MR Gymnasts. All MR gymnasts who competed officially during the 1981 Canadian MRG Championships in group or individual events. They represented seven Canadian provinces. Saskatchewan did not have any representation, as there is no competitive program offered there. Prince Edward Island, The Yukon and The North-West Territories were not members of the CMRGF at that time. One elite coach from Ontario and her gymnasts were excluded from the study because the rules of the National Championship restrict the number of official gymnasts representing a province.

MRG coaches. All elite coaches across Canada whose gymnasts competed officially during 1981 Canadian MRG Championship.

All participants were from major Canadian cities. A complete breakdown of the number of coaches and athletes tested in the present study is provided in Chapter IV - Results and Discussion.

B. Instruments

1. The Alberta Incentive Motivation Inventory (IMI)

The IMI was developed by Alderman and Wood (1976). Wood (1980) tested its validity in her doctoral work.

The inventory is designed to measure the relative strength of the incentive systems in competitive athletes. It consists of 70 statements, 10 statements related to each of the seven incentive systems. The complete scale appears in Appendix A. The statements repeat in a regular rotation with every seventh statement related to the same incentive system (eg.: statements 1, 8, 15, etc. refer to the incentive scale of excellence). The present order of items provided maximum isolation among various scales, limiting possible bias responses (Wood, 1980, p. 125)

The responses to each statement are weighted on a four choice continuum: always (4 points), often (3 points), seldom (2 points), and never (1 point). Hence, a respondent could accumulate between a minimum of 10 points and a maximum of 40 points for each incentive scale.

The present study used a short version of the IMI, considering only those statements which assessed the incentive of excellence, stress, success, and affiliation (See Appendix A). The decision to use the short version of the inventory was based on three reasons. First, studies by Wood (1980/81) and Garvie (1980) revealed that the major reasons individuals are involved in a relatively wide range

of competitive sports relate to the incentive systems of excellence, stress, success and affiliation. Second, the sample chosen for this study belongs to a non-contact, aesthetic activity in which graceful movement is the essence. The incentives of power (as control of others) and aggression (as interference with the actions or intentions of others) have little relevance in MRG. Third, the very young athlete/participants in this study (9 - 10 years old) made the question of reliability on a 70 - item inventory questionable.

In the interest of improving comprehension of the inventory items, wording of some statements was modified and made more applicable to MRG. For example: statement 15 in Wood's inventory (1980), "the better I play, the more I like myself", reads in the present study, "the better I perform in my sport, the more I like myself" (statement 9). Statement 24 in Wood's inventory, "I enjoy being 'uptight' before and during a game", reads in the present study, "I enjoy being 'uptight' and nervous before and during a competition" (statement 14). Statement 33 in Wood's inventory, "Winning in sport is the most important thing even when I play badly'., reads in the present study, "Winning in sport is the most important thing even when I do not perform well but still win" (statement 19). (See Appendix B for a complete list of modifications).

An answer scale was added to the right side of each statement. It was considered more convenient for

respondents than a separate answer sheet.

2. The Coach Attitude-Behavior (CAB) Scale

The CAB scale, developed by Bain (1973), purported to measure the "relative amount of authoritarian attitude and behavior of coaches as it pertains to athletic coaching situations" (Bain, 1973, p. 59). He assumed that the behavior and attitudes of his coach sample would be reflected in their response to the scale. Although the scale was divided into six subclassifications, research with the instrument to date (Bain, 1973; Naylor, 1976; Horwood, 1979; and Gordon, 1981) has not analysed the scores obtained within each classification. The total score has been considered a measure of the coach's authoritarianism. The complete scale is presented in Appendix C.

A total score of 78 or less is considered to indicate an authoritarian style of coaching, while a score of 79 and more is taken to indicate a non-authoritarian type of coaching.

Three more items (Questions 26,27,28) were added to the original scale by Gordon (1981, p. 72) and were kept in the present study. They were considered as valuable in evaluating elite MRG coaches' views of criticism from various sources, and as an indication of coaching priorities.

3. The Least Preferred Co-Worker (LPC) Scale

The LPC scale was developed by F.E. Fiedler (1967), and aims to measure the leadership style with reference to the consistency of goals or needs over different situations (1967, p. 37). (See Appendix D for complete description of the scale).

The instrument is a semantic differential type, composed of 16 scales of bipolar adjective pairs. Each scale is weighted from 1 to 8, the lowest score being attributed to the adjective with negative value. The scores obtained from each bipolar objective scale are added up to identify the type of leadership style: a score of 65 and above describes a high LPC, or a relationship-motivated person. A score of 57 and below, a low LPC, or a task-motivated person. Individuals with scores between 58 and 63 are not clearly relationship - or task motivated, and in the present study are disregarded.

4. The Team Atmosphere (TA) Scale

Created by Fiedler (1967), and entitled Group Atmosphere, this instrument indicates the degree to which the leader feels accepted by the group and relaxed and at ease in his role (Fiedler, 1967, p. 32). (See Appendix E).

The TA scale is similar in structure to LPC scale, consisting of ten highly intercorrelated bipolar adjective items. Each item is weighted on a eight point continuum: the positive end receives a score of 8, while the negative

end receives a score of 1. A respondent may accumulate anywhere between a minimum of 10 points and a maximum of 80 points. The TA scale of each respondent is ranked into an upper (56.6 - 80), middle (33.3 - 56.6), and lower (10 - 33.3) third (Fiedler, 1962, p. 312).

Fiedler administered the TA scale, in at least two studies, to both leaders and group members (1962, 1967). He concluded that in these cases, the interpretation of results ought to be done carefully as leaders often assess team atmosphere differently than do members of the group (Fiedler, 1967, p. 32).

C. Composition of the Questionnaire

1. Athlete's Questionnaire

The athlete's questionnaire is composed of three parts. Instructions to the respondents and Part A of the questionnaire are found in Appendix F. Part A of the questionnaire is concerned with personal demographic and athletic experience information. Part B is comprised of the Alberta Incentive Motivation Inventory, and Part C, of the Team Atmosphere scale.

This order of instruments was selected for the same reason outlined for the coaches, that is the IMI is considered to require the greatest concentration. The TA scale has a "catchy" format which, it was hoped, would maintain respondents' attention.

2. Coach's Questionnaire

The coach's questionnaire was composed of two parts: A. Coach's background information and B, the various scales used as instruments in this study. Instructions for completing the questionnaire were provided in a cover letter and at the beginning of each instrument. (See Appendix G for cover letter and background information).

Part B of the coach's questionnaire consisted of the three scales already described: the Coach's Attitude-Behavior; Least Preferred Co-worker; and Team Atmosphere Scales, in that order. In this case, the Coach-Attitude-Behavior Scale was considered to require the most concentration from respondents. For that reason it was placed first. Secondly, it was assumed that during the completion of Part A, and then the CAB scale, traces of anxiety and other negative feelings present in the respondents might have diminished, leaving them more relaxed and eager to complete the final sections of the package.

D. Protocol for Administration of the Questionnaire

The questionnaire was administrated to the coaches and gymnasts during the Canadian Modern Rhythmic Gymnastics Championships (April 24-26, 1981), in Halifax, Nova Scotia. The decision to use this event was based on the following rationale: 1. The mailed questionnaire is a procedure generally characterized by low response rate (McCallon and McCray, 1975). Because the coach's population is small in

MRG it was felt that a high response rate would be vital to the relevance of the study. 2. The mailed questionnaire procedure can become dragged out when respondents fail to return questionnaires and prompts must be carried out by mail or telephone. 3. During the National Championships all the participants to the study were in the same place for four days.

Initially, the author intended to administer the questionnaire to all the respondents at once, sometime before the beginning of the competition, when everybody would be under the same physical and psychological conditions. This was not possible so the author decided to have the questionnaires completed by each team after one of their practices but prior to the beginning of the competition.

The coach and her gymnasts were met in the changing room. They were asked to find a comfortable position, apart from each other and to keep answers private. The materials were distributed and the author explained the purpose of the study, content of the questionnaires, and procedures in completing the scales. It was clearly stated that the answers would be treated anonymously and that, at any time during the completion of the questionnaire, respondents' questions would be answered by the author.

The questionnaires were collected by the author when all the respondents finished their work.

One coach, due to personal problems, could not attend the competition and decided not to participate in the study. Another coach, due to her limited knowledge in the English language completed the questionnaire with the assistance of an interpreter and the author. Two teams from a French - speaking province used their coaches as interpreters on some parts of the questionnaire. One gymnast refused to complete the questionnaire.

E. Validity and Reliability of the Instruments

1. Alberta Incentive Motivation Inventory

To evaluate the construct validity of IMI, Wood (1980) used two different analyses: the method of correlational criteria as outlined by Campbell and Fiske and the method of principal - axis factoring, varimax rotation, and orthogonal procrustean transformation. She concluded that based on the method of correlational criteria the construct validity of all IMI scales was acceptable (Wood, 1980, pp. 208-209). Based on the method of principal axis factoring, varimax rotation, and orthogonal procrustean transformation the construct validity of all the IMI scales except for the excellence scale was also supported (Wood, 1980, p. 209).

Wood employed the alpha coefficient test to verify the internal consistency of the IMI. She found the alpha coefficient ranging from .31 to .78, with 86% of these coefficients ranging from .45 to .78. To test stability

over time she used the test-retest method. The test-retest coefficients ranged from .468 to .844 (Wood, 1980. pp. 187-196).

Support to her findings are provided by Garvie (1979). He concluded that "the seven scales of IMI are reliable, and they measure the constructs defined by their labels, Excellence, Power, Stress, Independence, Success, Aggression, and Affiliation (Garvie, 1979, p. 183). These verifications of the reliability of the IMI scales are considered to provide a sound basis for the use of this instrument in the present study. The scales were specifically created for competitive sports environments which appears to offer additional support for their use.

2. Coach Attitude Behavior Scale

The scale was developed by Bain (1973) and has been used in several sport related studies (Naylor, 1976; Horwood, 1979; Gordon, 1981). None of these studies report efforts to measure reliability or confirm validity. Apparently, all of these researchers accepted the instrument in terms of face validity. Reliability has never been examined.

3. Least Preferred Co-worker and Team Atmosphere Scales

The validation studies undertaken by different researchers (Fiedler, 1967) were focused on the Contingency Model, where LPC and Group Atmosphere (read: team

atmosphere) were among the scales tested. The findings yielded highly consistent results which provide substantial support for the Contingency Model hypothesis (Fiedler, 1967, p. 180). As Fiedler stated, ". . . the group situations were ordered on a basis of their favorableness for the leader, and each of these provided evidence that the task-oriented leader tends to perform best in situations which are very favorable while the relationship-oriented leader tends to perform best in situations intermediate in favorableness" (1967, p. 180).

The internal consistency of the scales was determined by means of split-half correlations, which yielded uniformly high values ranging from .85 to .95. The scale items have been changed for different studies. However, the item content describing personality attributes (eg.: friendly - unfriendly, efficient - inefficient) rather than personal attributes (tall - short, young - old) was uniform across those studies (Fiedler, 1967, p. 47).

Again, these findings from previous research allowed the author to use the LPC and GA (TA) scales with considerable confidence in their validity and reliability.

F. Instruments Modification

All instruments used in the present study were adapted to suit MRG settings. For example, such wording as "my playing", "games", "players", and "pitch", used in previous research, was replaced in the present study with, "my work

in the gym", "competition", "gymnasts", "gymnasium". The prior explanation of each scale was reduced in length because verbal explanations were possible, and it was considered important to keep the questionnaire as short as possible.

Gordon (1981) added three questions to the Coach Attitude Behavior Scale, and these were kept in the present study. They were considered useful in evaluating elite MRG coaches' views of criticism from various sources, and of coaching priorities.

G. Statistical Treatment

Means, standard deviations and percentages were computed for descriptive statistics and graphic representation purposes.

1. Two Way Analysis of Variance and Scheff'e Tests were used to examine patterns of incentive motivation in elite MR gymnasts.

2. A Pearson product-moment correlation coefficient was used to examine relationships between coaching leadership style and: coach authoritarianism; team atmosphere (see page 8); coaching qualification and educational data; years of coaching experience; cultural background and marital status; time spent on coaching or MRG related activities during the competitive year.

3. A one-way analysis of variance was used to examine relationships between coaching leadership style and team

atmosphere.

4. The two-way analysis of variance was used to determine differences in how the coaches and their athletes perceived the team atmosphere.

IV. RESULTS AND DISCUSSION

A. The Sample

A descriptive analysis of the sample will be presented first to provide the reader with a background for the quantitative findings.

1. Modern Rhythmic Gymnasts Sample

Age

Thirty one of the M.R. gymnasts were juniors nine to 14 years of age, with a mean age of 12.81 years. There were 48 senior gymnasts 15 to 24 years old, with a mean age of 17.62. The mean age of the entire sample was 15.73 years (see Appendix I, Table 11).

Competition event pattern

Of the respondents, 17.9% were involved in individual events, 72.6% in groups events and 9.5% in both events (see Table 1). The general international trend is to train gymnasts to compete in either individual or group events. The fact that almost 10 percent of these gymnasts were active in both may be a result of the early stage of development of the sport in Canada. Most of the gymnasts in individual and both event categories had been active for four years (see Table 1). In the group category 90.2% of the respondents had been competing for four years or less.

Table 1

Frequencies of Numbers of Competing Years

in Different Events

Competing Event	Number (Percentage)	Number (Percentage) of M.R. Gymnasts per Competing Year								
		1	2	3	4	5	6	7	8	9
Individual	15 (17.9)	1 (6.7)	0	3 (20)	5 (33.3)	2 (13.3)	3 (20)	0	1 (6.7)	0
Group	61 (72.6)	17 (27.9)	15 (24.6)	13 (21.3)	10 (16.4)	1 (1.6)	0	2 (3.3)	2 (3.3)	1 (1.6)
Both	8 (9.5)	0	1 (12.5)	1 (12.5)	5 (62.5)	0	0	1 (12.5)	0	0

The highest percentage of participation in this category had been active under one year. Most gymnasts compete for four years or less as illustrated by the dramatic drop in the number with more than four years experience. Some percentage decrease was also observed in individual and both events category. The cause of this sudden decrease after the four year period is unknown at present, but it would be useful for the M.R.G community to identify attrition factors.

Competitive involvement in M.R.G.

The results showed that the respondents had been competing in individual events for an average of 4.4 years (see Table 2) and the present level for an average of 2.13 years. The group event gymnasts averaged 2.78 years, and had been competing at their present level for an average of 2.0 years. Gymnasts who participated in both events averaged 4.0 years and 2.37 years at the present level. Of all the groups, the individual gymnasts had spent the longest time competing at the present level. In this respect it should be emphasized that individual gymnasts have to train and compete longer, at any level, to develop the skill required for success.

Incentive Motivation Inventory (IMI) subtests

The results obtained for the four IMI Subtests for the three subgroups of respondents are presented in Appendix I,

Table 2

Competitive Involvement in M.R.G.

Competitive event	Years Competing in M.R.G.				Years Comp at Present Level			
	Min.	Max.	Mean	S.D.	Min.	Max.	Mean	S.D.
Individual (15)*	1	8	4.40	1.68	1	8	2.13	1.68
Group (61)	1	9	2.78	1.88	1	6	2.00	1.37
Both (8)	2	7	4.00	1.41	1	9	2.37	2.72
Entire Sample (84)	1	9	3.19	1.91	1	9	2.06	1.57

* Number of gymnasts per event

Table 12. The gymnasts placed the highest emphasis on excellence (Xi = 36.13, Xg = 35.36). Using the Alderman and Watson (cited in Keene, 1977) scoring system (see Appendix I, Table 13), this value would be classified as strong. Scores as high as 40 were found in both individual and group categories. The lowest score, 30, was attributed to gymnasts competing in group and both event categories.

On the stress incentive subtest again the individual and group gymnasts scored highest (Xi = 27.00, Xg = 26.87). In this subtest, scores as high as 33 and as low as 18 were reported. These results fall in the medium classification in the Alderman and Watson system.

Success was most important to individual, and both events gymnasts (Xi = 26.40 Xb = 25.75). Scores as high as 33 and as low as 18 were reported. Of interest is that group gymnasts scored lower than those competing in both events. Mean scores obtained in this incentive subtest are classified as medium.

Individual and group gymnasts scored highest on the affiliation subtest (Xi = 32.47, Xg = 31.92). Scores as high as 40 and as low as 24 were reported. These results fall in the strong category.

To summarize, it was found that the highest incentive motivation scores were reported for the excellence subtest, followed by affiliation. It seems inevitable that competition in sport at any reasonable level involves excellence as defined by Birch and Veroff (1966) and as

confirmed in this study. The same authors state that, "the incentives for affiliation, both positive and negative, undoubtedly arise out of people's inevitable experiences of acceptance or rejection as they grow up" (Birch and Veroff, 1966, p. 66). It is a comment on the complex values of sport to young people that despite the need to strive to excel, to better others, it is possible to, at one and the same time, serve affiliation needs. Whether there are gender differences is not possible to say, but "acceptance is extremely important for girls and young women" (Orlick and Botterill, 1975, p. 31), and according to Neal and Tutko (1975, p. 42), many girls engage in sport "because they like the feeling of belonging to a group". This pattern of serving both excellence and affiliation needs is described by Klavora and Daniel (1979):

> Participation in competitive sport is perceived to be important to athletes because it provides them with an opportunity to establish and maintain close personal relationships and be accepted as an important member of a group. In addition, the competitive sport experience provides an opportunity to do something very well for its own sake or to do it better than anyone else. (p. 188)

While it is interesting to compare mean scores for the four IMI subtests, Wood (1980) advises that it would be hazardous to interpret the incentive systems "with respect to their ranking and importance to the athletes" (p. 197), as appropriate norms have not yet been developed.

Comparing present results with results of previous studies (Table 3, p. 69), it is noted that M.R. gymnasts scored highest in excellence and affiliation subtests, and

Table 3

IMI Subtests Means in Different Studies

Author. year	Sport Sample	Excellence	Stress	Success	Affiliation
Keene, 1977	Basketball Male	31.3	27.8	30.1	29.9
Wood, 1980	Basketball and Swimming Mixed Sample	33.67	26.30	25.96	30.84
Ilica, 1980	M.R.G. Female	35.20	26.58	25.88	31.59

lowest in the success subtests. The results on the excellence subtest might be related to the high level of competition of the M.R. gymnasts in the sample. The gender of the respondents might had been an important variable in the affiliation incentive system scores. Further, the excellence and success incentive systems may interfere with each other since the former is primarily intrinsic and the latter, extrinsic. Finally, if the excellence or affiliation system is powerful, then the success system might be weak.

Team atmosphere

TA was examined considering two variables: age, and competing event. Six respondents did not complete the scale as their parents felt that the instrument would reveal a detrimental evaluation of the coach. Ranges, means and standard deviations are presented on Appendix I, Tables 14 and 15.

From the results it appears that junior gymnasts perceive the TA much higher than senior gymnasts. The results are consistent with the practical observation that for young girls a harmonious environment is more important than for older girls. Interpersonal attraction at this age is very strong, and a positive interaction with the coach and teammates would create a high degree of team harmony (Singer, 1972; Orlick, 1980). A favorable team atmosphere is considered important: "maximum team harmony is needed for

maximum productivity" (Alderman, 1974, p. 102).

Reviewing recent research, Alderman felt that in-group competition interferes with developing cohesion of a group. This might have been the case among the senior gymnasts, resulting in their perceiving TA at a lower level than the junior gymnasts. Also it could be that for senior gymnasts the focus on the task overrides affiliative needs.

Gymnasts competing in the group event scored highest in assessing the TA ($\bar{X}$ = 71.84), while gymnasts competing in individual events scored lowest ($\bar{X}$ = 70.54; see Appendix I, Table 15). Group gymnasts through the nature of their event must spend the larger part of the training session together, working in very close relationships to each other. Whether the coach is with them or not, this closeness is more likely to produce harmony on cohesion because of the cooperation required for success and the fact that if a girl cannot "fit in", she will leave the group. Individual gymnasts train extensively on an independent basis. The training schedule offers them little chance to interact with other gymnasts. Thus, these individuals may perceive TA to be at, or of a lower level or at least not of central importance.

To summarize, the generally high perception of the team atmosphere in this study might have resulted from a combination of the following:

1. the population studied was all female and at the same high level of competition,

2. motivation as measured by IMI was high,

3. respondents were competing in a sport culturally acceptable for females, so they felt comfortable in it,

4. the study did not include substitutes and gymnasts who compete unofficially, who might display a lower perception of team atmosphere because of their peripheral status.

2. Coaches Sample

Age

Of the 12 coaches included in the study, 83.33% were in the age interval of 18 - 45 years and 16.67% in age interval of 46 - 60 years (see Appendix I, Table 16). The sample is younger than both Horwood's (1979) sample which ranged from 31 to 60 years, and Gordon's (1981), which ranged from 28 years to 55 years. This fact could be a reflection of the newness of this sport in our culture. The younger coaches came directly from involvement as competitive Modern Rhythmic gymnasts and due to lack of provincial coaching expertise had assumed responsibilities for coaching athletes of elite calibre. Thus they neither had to serve an extended period of apprenticeship at lower levels, nor did they require post - secondary educational qualifications before being appointed, as did the college and university coaches in Horwood's study.

Place of birth and country lived in longest

Six coaches were born in Canada and seven coaches had lived most of their lives in Canada (see Appendix I, Table 17). The others came to Canada from Europe and Japan.

Marital status and number of children

Seventy-five percent of the respondents were married and 50% had one or two children. (See Appendix I, table 18). Naylor (1976), who studied 50 male amateur head coaches of football teams in the province of Alberta, reported 96% of his sample as married with 78% having one or more children. Gordon (1981) who conducted his study among male soccer coaches in North America reported that 84.5% of his sample were married, and almost all had children (p. 59).

Differences observed in the present study could very well have been related to the younger age of the MRG coaches sample, and to the fact that they were all female. Given that coaching is still generally considered to be male-dominated it may be difficult for women to commit themselves to coaching particularly if they feel that they must trade this off against family responsibilities. As Critcher (1974) argues, "The very strong differentiation of sexual roles in our society stems from a particular notion of marriage and family life, and that the demands of those institutions result in a narrow and constrictive definition of the female role" (p. 8). Pursuing coaching in MRG, the

respondents might have perceived their roles as being expected to limit to some extent their private life for the benefit of their "hobby" - coaching activities.

Highest level of education and specialization of coaches holding a university degree

Seventy-five percent of the respondents held a bachelor's degree, and 66.67% indicated physical education as their major. (See Appendix I, table 19). The other 33.33%, who all came from Eastern Europe, indicated MRG as their specialization. Comparing these findings with previous research, it is apparent that the MRG coaches were not as well educated as coaches who are involved in more popular sports (i.e. football, soccer and basketball), particularly those at the University level. Sage (1973) reported that almost all college head coaches in the United States participating in his study held a bachelor's degree and over 70% have a Master's degree. Seventy-two percent of Naylor's (1976) sample had a physical education degree, while 80% of Gordon's (1981) sample had attained a degree, and 100% of Horwood's (1979) sample had a bachelor degree or equivalent. Again, these differences clearly relate to the fact that Naylor's coaches were almost all school teachers who have been required for some years in Alberta, except under very special circumstances, to have a degree. The same rule, with very few exceptions, applies to University coaches. If one were to study women coaches in Alberta

school sports (or in all but the one or two provinces where teaching qualifications are lower), the percentage holding degrees would be in the same range as Naylor's study since the requirement is the same for both sexes. The same situation exists at Canadian universities where most women as well as men coaches have not only a bachelor's degree but one or more advanced degrees.

Aside from this, two other ideas could be of importance: the first relates to the attitude women have towards education as an avenue of expressing women's rights. As Cocks (1982) suggests, many women strongly believe that more education would not change their lives - men would still have priorities in the job market and they would be better paid for the same job classification. This belief might restrain some women from attempting to further their academic education. The second possibility relates to the fact that very few MRG clubs are associated in any significant way with colleges or university clubs. The contact of the coach with the university educational system is minimal, and very few coaches are professionally involved at university level. Nor is there, at present, any significant presence of MRG in university curricula. The combined effect of these factors might well be to reduce the likelihood that coaches would seek higher levels of education.

MRG competitive experience

Two coaches reported no MRG experience as a competitor; six reported having less than five years experience; and four, more than five years experience. (See Appendix I, table 20). The coaches who lived longest outside Canada had a mean of 7.2 years of competitive experience, as opposed to a mean of 2.4 years reported by the coaches who lived longest in Canada.

This difference is a reflection of the history of MRG in these countries. Eastern Europe and Japan have much longer histories of involvement than has Canada. Romania, for example, has been active in the sport for at least 30 years, while in Canada, there was no competitive activity until about 15 years ago. Similarly, Gordon (1981) reported that "coaches who were born in the United Kingdom and were also brought up in a soccer culture . . . report playing soccer for a greater number of years than the CIAU and USSF sample" (p. 60). One might expect that as time goes on, the differences due to this cultural factor will decrease if not disappear.

Coaching experience

Of the respondents, 33.33% had less than five years experience as assistant coaches, while the remaining two-thirds had no experience as assistant coaches. (See Appendix I, table 21). As MRG in many clubs in Canada started because of one person's interest, it was not

possible for most coaches in this study to gain experience as an assistant. There was no coach to assist, they had no choice but to start as a head coach. This is borne out by the fact that 75% of the respondents who had experience as assistant coaches lived longest in Eastern Europe and Japan. The range of experience as an assistant coach was one to five years, with an average of 3.5 years.

The average head coach experience of this sample was 6.33 years, with a range of one to 15 years. Following Wardell's (1980) method, the respondents were divided into two groups: the respondents with less than five years as head coach being identified as inexperienced, and the respondents with five years or more, experienced. The first group had a mean of 1.8 years head coach experience, while the second group a mean of 9.57 years experience. The researcher felt that this division was useful to better define the elite / experienced coach group within the sample. In the present study some of the elite coaches had just started coaching and have been accepted at the elite level because they were the only active coaches in their provinces. Because the sport in Canada is in its pioneering stage, the Canadian Modern Rhythmic Gymnastics Federation encourages any individual who has the minimum expertise to qualify her group(s) for participation in the national championships. This special situation is clearly reflected in the present results.

The average head coach experience of the group of MRG coaches, 6.33 years, is very close to that of high school football coaches Naylor (1976) studied, 6.10 years.

The average of the experienced MRG coaches, 9.57 years, is very close to the 10.2 years of the professional soccer coaches canvassed by Gordon (1981), and the 9.68 years for university basketball coaches reported in Horwood's study (1979). It is of interest to observe that the experienced-coach female sample of the present study showed as long an involvement in the sport as the male samples studied by Gordon and Horwood.

Coaching qualifications

Two-thirds of the respondents were certified coaches in that they had qualified for Level I certification of the National Coaching Certification Program (NCCP). (See Appendix I, table 12). Fifty percent indicated that they did not hold any other coaching certificates. The other half of the respondents reported holding a variety of certificates in sport related to MRG (e.g. artistic gymnastics, trampoline or figure skating). The NCCP is the only coaching certification program in Canada available to MRG coaches, but it is not compulsory to hold that certification in order to be recognized as a coach.

Time spent in MRG for training, preparation, and organization, during the season

The mean for training hours per week for the entire sample was 13.42 hours. The experienced coaches spent an average of 16 hours per week in training, while the inexperienced coaches reported an average of 10.25 hours per week.

For preparation and planning, outside of practice sessions, the mean for the entire sample was 6.6 hours per week. The experienced coaches spent an average of 6 hours per week preparing and planning and the inexperienced coaches 7.5 hours per week. Two coaches reported that it was difficult for them to assess accurately the amount of time spent on preparation and planning, as they consistently think about it (e.g., when they drive, eat, or have some free time).

The mean for the entire sample for organizing, promoting, and general administration was 5.64 hours per week. The experienced coaches averaged 6.71 hours per week. The inexperienced coaches spent an average of 3.75 hours per week on similar activities. One coach was not able to assess with certainty the time she spent on these activities.

The total average time spent by MRG coaches per week was reported to be 25.66 hours. Comparing the results reported by the experienced and inexperienced coaches the following observations were made:

1. The experienced coaches reported spending 5.75 hours per week more in training than the inexperienced coaches.

2. The experienced coaches reported spending 1.5 hours per week less in preparing and planning.

3. The experienced coaches reported spending almost 3 hours per week more in organizing, promoting, and general administration.

It is interesting that the experienced coaches in both this study and in Gordon's (1981) study, reported more time spent in training and administration than did inexperienced coaches.

A second comparison was made between the results obtained from the entire group of coaches from this study and previous studies (see Table 4). The following comparisons are revealed:

1. MRG coaches reported spending more time in practice per week than football and basketball coaches.

2. MRG coaches reported spending less time in preparation and organization of their practices or competitions than football and basketball coaches.

3. The total amount of time reported spent by MRG coaches per week in season on practice, preparation, and organization is less than that spent by coaches of professional soccer, basketball, amateur soccer, and football teams.

Table 4

Hours Spent per Week in Season
Reported in Four Studies

Author, year	Sport	Practice	Out of Practice		Total
			Prep, Planning	Organi-zation	
Naylor, 1976	Football	8.82	17.64	NR	26.46
Horwood, 1979	Basketball	10.8	11	7	29.12
Gordon, 1981	Soccer	Professional NR	NR	NR	55.5
		Amateur NR	NR	NR	28.09
Ilica, 1982	M.R.G.	13.42	6.6	5.64	25.66

N.R. Not reported.

Months of training per year

The average number of months training per year for the entire sample was 9.66. The experienced coaches were involved in training for an average of 10.43 months per year while the inexperienced coaches reported 8.8 months. Again, there is evidence that the experienced coaches are more extensively involved in coaching than the inexperienced coaches.

Number of gymnasts under training

Of the 12 coaches in the sample, three did not coach any gymnasts for individual events. The remaining nine coached a total of 20 gymnasts, three coaches trained with one, three trained two, one trained three, and two trained four. (See Table 5, page 83 and Appendix I, Table 23). All experienced coaches had at least one gymnast under training, whereas only two inexperienced coaches reported having individual gymnasts under training. It is interesting that one of the inexperienced coaches was training four gymnasts - the highest number reported in this study. This coach lived longest outside Canada, in a culture with strong MRG tradition. She had competed as a gymnast for six years at the international level and was an assistant coach for five years. Using Wardell's (1980) classification, she was considered an inexperienced coach. However, her previous gymnastics experience and her past and present coaching involvement indicate that actually she had a greater

Table 5

Number of Individual Gymnasts and Groups Associated with Each Coach, and Coaches' Scores on CAB, LPC, and TA

Coach	Individual Gymnasts Coached	Groups Coached	CAB (78>)	LPC (65>, 57<)	TA (56.67>)
1	2	2	64	83	69
2	4	1	60	62	80
3	-	1	110	51	72
4	1	1	60	24	67
5	3	1	65	61	78
6	4	2	72	87	
7	-	1	84	29	76
8	-	1	72	56	72
9	2	2	75	66	67
10	1	1	72	68	64
11	1	-	84	63	70
12	2	1	32	69	62
Total	20	14	$\bar{X}$=78.83	$\bar{X}$=59.91 (All scores) $\bar{X}$=59.22 (Low & High LPC)	$\bar{X}$=70.64

coaching background in training individual gymnasts than have the majority of the experienced coaches. Hence, in this particular case, Wardell's classification of coaching experience is misleading.

Of the entire sample of coaches, 91.66% reported training either one or two groups of gymnasts. (See Table 5, page 83 and Appendix I, Table 24). As the maximum number of groups allowed to officially represent a province in the national championships is two, it might be that some of the coaches involved in this study did not report all the groups they had under training, i.e. provincial level groups.

The experienced coaches were training an average of eight groups and the inexperienced averaged six groups. One experienced coach reported the minimum coaching load of one individual gymnast, while another inexperienced coach reported the greatest coaching load: four individual gymnasts and two groups. The experienced coach was just returning to the competitive MRG program after an absence of two years. The inexperienced coach was brought to Canada on a two year contract by a private club. Obviously, their coaching loads reflected these personal factors.

Coaching authoritarianism

The degree of authoritarianism exhibited by the MRG coaches was measured by the Coach Attitude-Behavior (CAB) scale. Seventy-five percent of the respondents were classified as authoritarian (see table 5). These findings

are quite different from research by Bain (1973), Naylor (1976), Horwood (1979), and Gordon (1981) who all reported their samples as predominantly non-authoritarian. It was surprising to find females surpassing male coaches in degree of authoritarianism. Naylor's (1976) comment that "coaches in general. . . have been somewhat incorrectly labeled as authoritarian figures" (p. 45) does not hold true for the present group of coaches. In explaining the authoritarianism of the sample in the present study two arguments could be of value. Firstly, it could be that the MRG coaches who lived the longest outside Canada might have used a style more consistent with that of their native country. This style might then have influenced other coaches in the sample through associations at competitions or coaching workshops. Secondly, the younger age of this sample, compared to previous research, might had been a factor in more authoritarianism attitudes. Bain (1973) speculated "that as a coach gains experience, his coaching style could become more democratic" (p. 101). Indeed, over the years a coach might tend to develop her own approach to coaching, in which experience and confidence might express themselves in a more democratic approach with less need for or interest in autocratic approaches.

Gordon (1981) added three questions to the CAB scale which were also used in this study as indicated earlier. The first question examined the importance, in the coach's eyes, of the gymnast or coach, as compared to the

organization or MRG. Nine respondents (74.99%) agreed that the organization, or MRG, should be more important than the individual. The second question revealed information about how coaches react to criticism originated by different sources. Very few coaches were prepared to consider the criticism by press, media, and fans, whereas 58.33% of the respondents were prepared to accept criticism from the gymnasts, and 75% from the organization. The third question provided information on how MRG coaches perceived their role priorities at their club. Almost all, 83.33% of the respondents saw winning as their major priority as a MRG coach. The data collected from these three questions is summarized in Table 6, pages 87 and 88.

Leadership style

This was assessed by The Least Preferred Co-worker (LPC) scale (see Chapter III, p. 54). It was found that 41.67% of the respondents were relationship oriented, 33.33% were task oriented, and 25.00% were in between. When these results are compared with Naylor and Gordon's findings, it reveals that MRG coaches are the most task, and the least relationship oriented among the three samples (Table 7).

Wardell argued that "one's leadership style is part of one's personality, and changing it would be as difficult as suddenly trying to become a different person" (1980, p.14). This view is worth brief discussion. One cannot expect "sudden" improvements in complex behavior such as coaching

Table 6

Three Additional Questions to the CAB Scale

	Strongly agree	Agree a little	Nautral	Disagree a little	Strongly disagree
Importance of the overall organization on M.R.G.					
Organization of MRG is more important than single individuals	4(33.33)	5(41.66)	1(8.33)	1(8.33)	1(8.33)
Reaction to criticism					
Coaches should respond to criticism from the:					
- press and media	1(8.33)	1(8.33)	1(8.33)	5(41.66)	4(33.33)

- the fans	0	2(16.67	3(25.00)	5(41.66)	2(16.67)
- the gymnasts	2(16.67)	5(41.66)	4(33.33)	1(8.33)	0
- the organization	2(16.67)	7(58.33)	1(8.33)	1(8.33)	1(8.33)

Major priorities as a MRG coach

Priority to produce:					
- an entertaining team	2(16.67)	0	2(16.67)	3(25.00)	0
- a winning team	6(50.00)	4(33.33)	0	1(8.33)	0
- to attract spectators	2(16.67)	1(8.33)	2(16.67)	0	1(8.33)

Table 7

Coaches' LPC Scores Reported in Three Studies

Author, year	Sport	Relationship Oriented Number (Percentage)	Task Oriented Number (Percentage)	Mixed oriented Number (Percentage)
Naylor, 1973	Football	28(56.00)	3(6.00)	19(36.00)
Gordon, 1981	Soccer	32(54.24)	17(28.81)	10(16.95)
Ilica, 1982	M.R.G	5(41.67)	4(33.33)	3(25.00)

behavior, anymore than one might expect sudden changes (for the better) in athlete performance. Such things do happen but are relatively rare outside of melodramatic plays or movies. Improvement in coaching or athletic behavior occurs quite slowly and even unpredictably, but over appropriate periods of time, improvement can be very substantial. Most teachers, including those who train coaches, are at least somewhat optimistic about changing behavior of others, especially when the subjects are themselves enthused and cooperative about changing. Since the behaviors critical to leadership style can be accurately described and modelled, willing subjects will be able to learn to display these more or less appropriately and thus, at least gradually, may alter their leadership style.

Aside from the issue of possible change, what reasons might one find to explain why this all female sample is clearly more task-oriented and less relationship oriented than the male samples studied by Naylor, and Gordon?

1. The women respondents may have been trying to behave as they thought men coaches do, particularly if they saw themselves operating in what is generally male territory.

2. As they were coaching athletes of excellent calibre, competitive demands are high especially since results are based on aesthetic judgement. Movements and figures must be performed extremely accurately.

3. Many of the respondents came from cultures where a "business - before - pleasure approach" (Wardell, 1980, p. 14) is commonly accepted.

4. The majority of respondents were classified as authoritarian as measured by the CAB scale.

5. The MRG coaches are engaged in promoting a new sport in Canada, perhaps facing more difficulties than coaches involved in better established sports. These pressures may also invite more task - oriented behavior.

The Team atmosphere

The Team Atmosphere (TA) scores were all clustered in the upper third interval with a mean of 70.64 and a range of 62 - 80 (Table 5). Scores in this upper third interval would indicate that the coach feels accepted by her group and at ease in her role. Within the upper third interval a new subclassification of the scores was determined (see Appendix I, Table 25). One coach did not complete this scale as she felt it would lead to a detrimental evaluation. The results of this study show a higher TA mean and range of scores than the results obtained in previous research (see Appendix I, Table 26). Whether or not the differences are statistically significant is unknown. The coaches' perception of team atmosphere could be higher in this study for various reasons. It could be argued that coaches are aware of their "human relations" role (Naylor, 1976, p.44) and therefore try to establish positive, harmonious

relationships with their team. Once established, the harmonious atmosphere within the team might act as a positive variable in increasing the productivity of the training sessions and competing events. Harmonious atmosphere could help release some of the pressure created by the physical, mental, and emotional demands on elite athletes during training. Moreover, in situations where winning teams were studied, it would become rather difficult to assess how the coach's endeavors, team success, or a combination of the two, might interact in creating a harmonious atmosphere.

MRG coaches were described in this study as generally more authoritarian (page 84). The findings also revealed that MRG coaches had the highest TA scores among other samples studied previously (see Appendix I, Table 26). These findings suggest that MRG coaches, despite being authoritarian, are able to establish a positive team atmosphere. They might be characterized as "benevolent dictators". A key to this success might be found in their ability to individualize tasks and thereby create a climate in which social relationships among co-workers (athletes) are enhanced (Wardell, 1980).

Finally, it may be that demographic variables such as age, sex, and class (Argyle, 1978) interact with the coaching environment to produce unexpected results.

B. Patterns of Incentive Motivation as Measured by the IMI

A two way analysis of variance was employed to test the significance of differences among the IMI subtests, using age and events as independent variables. No significant differences were found (see Appendix I, Tables 27-30).

Alderman (1970) conducted a study of attitudes towards physical activity among champion athletes. He reported that male athletes scored significantly higher than female athletes on the vertigo dimension, which he states is closely related to the stress system. On the other hand, female athletes scored significantly higher than male athletes on the social experience dimension (affiliation).

Wood (1980) in a related study, reported no significant male/female difference on the IMI subtest on excellence, and unlike Alderman, no sex difference on IMI stress scores for athletes in basketball and swimming. Male athletes in both sports in her study scored significantly higher than female athletes in the same sports on the subtest of success. Female swimmers scored significantly higher than female basketball players on the subtest of success. And, female basketball players scored significantly higher than male basketball players on the subtest of affiliation. In the present study there were also no significant differences on the subtests of excellence and stress for the MR gymnasts.

As the present study involved only female respondents from one sport, and one skill level, it was expected that no significant difference would be found among the variables

studied. MRG athletes at this level cluster very closely with respect to many physical and psychological qualities. Another relevant common characteristic within this group is that they have all had extensive involvement with the aesthetic aspects of movement. It would be interesting and valuable to develop a scale to measure the incentive motivation value of aesthetics as an adjunct to the present IMI, because of its importance in several sports such as MRG, gymnastics, diving, figure skating, and ski jumping, to mention a few.

C. Leadership Style Relationships

Coach authoritarianism

Using the "rule of thumb" suggested by Hinkle (1979, p.85), no inverse relationships or little negative linear correlation was found between LPC and CAB measurements. In general, very low scores on the LPC scale were associated with very low scores on CAB scale. The findings are consistent with Naylor (1976) and Horwood's (1979) results. However, they do not support Gordon's (1981) results. This contradiction might be due to a combination of effects from three sources. First, little variation in the dimension of situational favorableness. Second, the present study involved female athletes and coaches which may have confounded comparisons with studies involving males. For example, coaches might have been apprehensive about

evaluating themselves on qualities such as authoritarianism and task orientation, which are closely associated with males in our culture. Third, the CAB scale has not ever been tested for reliability. It would seem logical to do that before using it in further research. The LPC scale has been widely used but controversy over the validity of the instrument has been increasing for the last few years. Fiedler (1967, 1969) and his associates (Fiedler, Chemers and Mahar, 1977; Fiedler and Mahar, 1979; Rice, 1978; Konar-Goldband, Rice, and Monkarsh, 1979; Wardell, 1980) report supportive evidence to the model. Work by Schriesheim and Kerr (in Hunt and Larson, 1977), Chelladurai and Carron (1978), and Gordon (1981) challenge the model. An extreme example of criticism states that "the contingency model and the central variable of LPC lack any semblance of validity and that further research is essentially a waste of time" (Konar-Goldband, 1979, p. 408). Gordon (1981) contends that this is an outcome of "inadequate testing procedures and from certain assumptions that were mistakenly taken for granted by the researcher" (p. 96).

The present author considers that the LPC scale produces difficulties in classifying respondents whose scores fall in the 58 - 63 range. Scores in this range suggest that there are individuals who are not clearly task or relationship oriented. But this would not be possible in the light of Fiedler's definition of leadership style which depends on an unchanged need structure as the basis for

motivation of the leader. It may be that more productive attempts to assess leadership style could be made using an observational analysis system such as the Coaching Behavior Observational System (CBOS) developed by M. Smith (1978). Both the Leadership Scale for Sports (LSS) (Chelladurai, 1980) and CBOS scales were developed specifically for use in athletic settings. As the coaching field continues to develop, it is apparent that increasing use of measuring instruments based on carefully developed, relevant theory, would be helpful.

Team atmosphere

One purpose of the study was to see if low LPC coaches perceive team atmosphere significantly different than do high LPC coaches. The comparison resulted in a difference significant at the .05 level (cv = 2.447) (Table 8). Low LPC coaches (50% of the respondents) had a mean of 71.75 on the TA scale, whereas high LPC coaches had a mean of 65.50. Gordon (1981) found that only 25% of his task oriented coaches perceive TA harmoniously, as compared to 67.2% of relationship oriented coaches who perceived TA high. This significant difference indicates that low LPC female M.R.G. coaches, who also were found to be low in authoritarianism and younger than respondents in previous research (Naylor, 1976; Horwood, 1979; Gordon, 1981), perceive TA to be more favorable than relationship oriented respondents. It could be that once the M.R.G. coaches establish their objectives

Table 8

TA for High and Low LPC Coaches

	Number of Cases	Mean TA	S. D.	T Value	DF	2 Tail Probability
Low LPC	4	71.75	3.686	2.59	6	.041
High LPC	4	65.50	3.109			

$\alpha = .05$

cv=2.447

Note:

a. The TA Score of each respondent is ranked into an upper (56.6 - 80.0), middle (33.3 - 56.6), or lower (10.0 - 33.3) third (Fiedler, 1962)

b. A score of 65 and above describes a high LPC, or a relationship-motivated person; a score of 57 and below, a low LPC, or a task-motivated person (Fiedler, 1967, p. 8)

Table 9

TA Perception of MRG Coaches and Their Gymnasts

	LPC	Low	High	DF	F	Significance
TA	Mean	70.60	73.26	24		
Scores	S.D.	9.23	5.89	33	2.45	0.0086
	N	25	34			

$\alpha = .05$

cv=1.92

Table 10

TA Perception by Coaches, and by Coaches and Their Gymnasts Combined

	Coaches		Coaches and their gymnasts combined	
	Mean	S.D.	Mean	S.D.
Low LPC	71.75	3.67	70.60	9.23
High LPC	65.50	3.11	73.26	5.89

study Massimo also suggested that highly skilled gymnasts respond to a different type of coaching style than lower skilled gymnasts. He argued that maybe task-oriented characteristics identified at lower levels of skill shift to the more emotional-caring ones as the level of skill is improved. Such a shift is supported by Bird's research conducted on volleyball teams (cited in Massimo, 1980). She concluded that coaching style modifies depending on the level of skill or competition of a particular team. Obviously, these findings do not fit well with Fiedler's model of leadership style.

To conclude, the present study found that:

1. Leadership style is a significant variable to consider when identifying the TA among coaches and their athletes. However, the instruments employed did not reveal a consistent pattern between the perception of TA and coaches' leadership style.

2. Variation was found in how the coaches and their gymnasts evaluated the TA.

3. If the data had been gathered at another period in the training year, the expectation is that TA measures would have been different because TA can be expected to change as relationships develop.

V. SUMMARY, CONCLUSIONS and RECOMMENDATIONS for FURTHER STUDY

Summary

The present study had two primary purposes:

1. To determine patterns of incentive motivation, as measured by the Alberta Incentive Motivation Inventory (IMI), among elite modern rhythmic (MR) gymnasts.

2. To examine trends of leadership style, as measured by the Least Preferred Co-Worker scale, in elite modern rhythmic gymnastics (MRG) coaches.

Respondents who participated in the study were all elite modern rhythmic gymnasts who competed officially in the 1981 Canadian Modern Rhythmic Gymnastics Championships, and their coaches. Specifically, respondents were 84 modern rhythmic gymnasts, age nine to 24, and competing in individual, group, and both events; and 12 elite modern rhythmic gymnastics coaches.

Each gymnast completed a questionnaire composed of three parts: personal demographic information, the Alberta IMI, and the Team Atmosphere (TA) scale. The personal demographic information was used to describe the elite MRG group in Canada. The Alberta IMI and TA scales were used to test the research hypotheses proposed in this study.

Of the 84 gymnasts, 31 were juniors in the age range of 9 to 14 years and with a mean age of 12.81 years; 48 gymnasts were seniors in the age range of 15 to 24 years

with a mean age of 17.62 years. The mean age of the entire sample was 15.73 years.

Of the respondents, 17.86 % were competing in individual events, 72.62 % in the group event, and 9.52 % in both events. The individual events gymnasts had been competing in MRG for an average of 4.4 years and at the present level for an average of 2.13 years. The group events gymnasts had been competing in MRG for an average of 2.78 years and at the present level for an average of 2.0 years. Gymnasts who competed in both events averaged 4.0 years in MRG, and 2.37 years of competition at the present level.

MR gymnasts scored highest on the excellence incentive system, followed by the affiliation incentive system as measured by the IMI. Also, in almost all cases (91.66 %), the scores of the gymnasts competing in individual and group events exceeded scores of the gymnasts competing in both events.

Junior gymnasts perceived the team atmosphere much higher than senior gymnasts. Gymnasts competing in group events scored higher in assessing the team atmosphere than gymnasts competing in individual events.

Each coach completed a questionnaire composed of two parts: personal demographic information, and instruments employed: Coach-Attitude Behavior, Least Preferred Co-Worker, and Team Atmosphere scales. The personal demographic information was used to describe the elite MRG

coaches group in Canada. The instruments provided the necessary data for testing the research hypotheses proposed in the present study.

Of the 12 coaches, 83.33 % were in the age interval of 18-45 years. Six coaches were born in Canada and seven coaches had lived most of their lives in Canada. The others came to Canada from Europe and Japan. Seventy-five percent of the respondents were married and 50 % of the married respondents had one or two children.

Seventy-five percent of the respondents held a bachelor's degree. Among them, 66.66% indicated physical education as their major. The other 33.33 %, who all came from Eastern Europe, indicated MRG as their specialization.

Two coaches reported no MRG experience as a competitor, six reported having less than five years experience, while four had more than five years experience. The coaches who lived longest outside Canada had a mean of 7.2 years of competitive experience, as opposed to a mean of 2.4 years reported by the coaches who lived longest in Canada.

Of the respondents, 33.33 % had less than five years experience as assistant coaches, while the remaining two-thirds has no experience as assistant coaches. The average head coach experience of this sample was 6.33 years, with a range of one to 15 years.

Two thirds of the respondents were certified coaches in that they had qualified for Level I certification of the National Coaching Certification Program (NCCP). Fifty

percent indicated that they did not hold any other coaching certificates. The other half of the respondents reported holding a variety of certificates in sports related to MRG: artistic gymnastics, trampoline, figure skating.

The mean for training hours per week for the entire sample was 13.42 hours. For preparation and planning, outside of practice sessions, the mean for the entire sample was 6.6 hours per week. The mean for the entire sample for organizing, promoting and general administration was 5.64 hours per week. Thus, the average time committment, per week, for each coach was 25.66 hours. The average number of months training per year for the entire sample was 9.66.

Of the 12 coaches, three coached only the group event. For the remaining nine coaches a total of 20 gymnasts were distributed as follows: three coaches trained one gymnast, three trained two, one trained three, and two trained four. Almost 92 % of the respondents were training either one or two groups of gymnasts.

The CAB scale, measuring the degree of authoritarianism, revealed that 75 % of the respondents were classified as authoritarian. Using the LPC scale to assess leadership style, it was found that 41.67 % of the respondents were relationship oriented, 33.33 % were task oriented, and 25 % were in-between. The TA scale, measuring the perception of team atmosphere, indicated that all coaches perceived that their teams were very harmonious. All TA scores were clustered in the upper third interval of

the scale, with a mean of 70.64 and a range of 62-80. The upper third of this scale ranges from 56.6 to 80.

A two-way analysis of variance revealed that there were no significant differences on any of the IMI subtests between gymnasts age nine to 14 and 15 to 24, whether competing in individual, group, or both events.

An analysis using Pearson's r produced the following results:

1. No significant correlation was found between LPC and CAB measurements.

2. A low positive correlation was found between LPC scores and coaches educational background ($r = 0.16$).

3. No significant correlation was found between LPC scores and coaching qualifications.

4. A low positive correlation was found between LPC scores and years of coaching experience ($r = 0.21$).

5. A significant positive correlation ($r = 0.63$) was found between LPC scores and cultural background.

6. A low negative correlation ($r = -0.32$) was found between LPC scores and marital status.

7. No relationship was found between leadership style and the time coaches spend on training, preparation, and organization per week; and the number of months of training per year.

A One-Way Analysis of Variance revealed that low LPC coaches perceived team atmosphere significantly higher than high LPC coaches.

A Two-Way Analysis of Variance revealed that low LPC coaches and their gymnasts' combined perceived team atmosphere significantly lower than high LPC coaches and their gymnasts combined.

Conclusions

Based on the results obtained in this study, the following conclusions were drawn:

1. There were no significant differences on any of the four incentive systems for modern rhythmic gymnasts age nine to 24, competing in individual, group and both events.

2. There were no significant correlations between LPC and CAB measurements.

3. Low LPC coaches perceived team atmosphere significantly higher than high LPC coaches.

4. LPC, and coaches educational qualifications showed a low positive correlation.

5. There was a significant correlation between LPC and cultural background.

6. LPC and marital status scores revealed a low negative correlation.

7. There were no significant correlations between LPC measurements and time spent on training, preparation, and organization per week; and the months of training per year.

Recommendations

Based on the results of the present study, the following recommendations are made for future investigations:

1. Future research with the IMI should have among its goals, the building of a data base across sports, levels of competition, and sexes, useful in describing and assessing differences in relative potency of the various incentive systems, and the patterning of incentives among athletes.

2. The value of aesthetics, as an incentive system should be examined and considered for inclusion in the IMI.

3. Future research should attempt to study the athletes and their coaches as they work together, in an interactional type of investigation.

4. Further research might utilize repeated tests over the competitive years, and from year to year, to examine the dynamic-developmental aspects of motivation and team atmosphere.

5. Future research investigating coaching leadership style should employ instruments specifically designed for use in sport settings, such as: Coach Behavior Description Questionnaire (CBDQ) developed by Danielson (1974), Coaching Behavior Assessment System (CBAS) developed by F. Smith et al. (1977), Coaching Behavior Observational System (CBOS) developed by M. Smith (1978), and Leadership Scale for Sports (LSS) developed by Chelladurai (1980).

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Appendix A

Alberta Incentive Motivation Inventory:

a. Long Version (Wood, 1980)

b. Short Version (Present Study)

1. In sport, doing the best I possibly can is more important than anything else.
2. It's important to make your teammates agree with you.
3. Hard workouts in practices are pleasant for me.
4. I would rather go without help when training.
5. Public criticism of my playing bothers me.
6. In some sports, such as football and hockey, injuring an opponent in order to win is partially approved of. If the opportunity existed in your sport, would you do the same?
7. Close friendships with my teammates are necessary for me.
8. Working hard to perfect my individual skills is what counts in sport.
9. I like telling my teammates what to do.
10. High pressure situations in sport are fun.
11. I prefer to compete alone, without lots of spectators watching me.
12. When I participate in sport, my objective is to win.
13. I like to intimidate my opponents.
14. Being accepted by my teammates is more important to me than winning.
15. The better I play, the more I like myself.
16. I take a strong stand in arguments with my coach.
17. The more complicated a sport is, the more I like it.
18. I don't care if my teammates dislike me.
19. I like to see my name in the sports section of the newspaper.
20. When frustrated, I become even more angry.
21. I can be friendly with teammates who do things which I consider are wrong.
22. Playing well is more important than winning.
23. I like being chosen to demonstrate in front of the team.
24. I enjoy being "uptight" before and during a game.

25. I couldn't care less if I make friends in my sport.

26. I like competing in front of large crowds of people.

27. I enjoy the opportunity to humiliate my opponents.

28. I enjoy my participation in sport just to be with other people.

29. I get very upset with myself when I don't play as well as I am able to.

30. Being a leader on the team is more important than winning.

31. I like doing new things in my sport.

32. I like to train alone.

33. Winning in sport is the most important thing even when I play badly.

34. Punishment of one's opponents is quite natural in sport.

35. Taking part in team affairs is important to me.

36. Practicing really hard is what makes great athletes.

37. I think people notice me when I participate in sport.

38. Not knowing whether I'm going to win or lose before a game is attractive to me.

39. I dislike being asked for advice by my teammates.

40. Games are more important than practices.

41. Releasing my frustrations is more important to me than winning.

42. I want to be considered friendly by my teammates and coach.

43. I blame myself when I play badly.

44. Coaches give me too much advice.

45. I like lots of noise while I'm playing.

46. It's fine with me when no one cares how well I play.

47. I dislike losing.

48. I don't feel sorry for my opponents when I beat them.

49. A warm, friendly atmosphere on the team is important to me.

50. I would rather learn the difficult things in my sport than the easy ones.

51. Winning arguments with my teammates is important to me.

52. Drills bore me.

53. I would rather lose than accept advice from my coach or teammates.

54. I participate in sport because my parents want me to.

55. One should beat inferior opponents as badly as possible.

56. I like to train with other people.

57. I practice new skills until I can do them perfectly.

58. I believe I am the most important person on the team.

59. Excitement in a game is more important than winning.

60. I don't like my parents being around when I'm competing.

61. The score is important in a game.

62. Competitive sport is a "dog-eat-dog" situation.

63. I get very upset when my teammates or my coach reject me.

64. I give 100% no matter who my opponent is.

65. I like it when my teammates depend on me during a game.

66. I like variety in practices.

67. Listening to my coach is a waste of time.

68. I would like to be a well-known athlete.

69. Heckling an opponent when you've beaten him is alright.

70. The only reason I participate in sport is to make friends.

IMI ANSWER SHEET

Name: _____

Age: _____

Sex: _____

Sport: _____

Instructions: Write your answer to each statement in the correct blank. Your answer is restricted to one of four choices:

ALWAYS OFTEN SELDOM NEVER

1. _____	2. _____	3. _____	4. _____	5. _____
6. _____	7. _____	8. _____	9. _____	10. _____
11. _____	12. _____	13. _____	14. _____	15. _____
16. _____	17. _____	18. _____	19. _____	20. _____
21. _____	22. _____	23. _____	24. _____	25. _____
26. _____	27. _____	28. _____	29. _____	30. _____
31. _____	32. _____	33. _____	34. _____	35. _____
36. _____	37. _____	38. _____	39. _____	40. _____
41. _____	42. _____	43. _____	44. _____	45. _____
46. _____	47. _____	48. _____	49. _____	50. _____
51. _____	52. _____	53. _____	54. _____	55. _____
56. _____	57. _____	58. _____	59. _____	60. _____
61. _____	62. _____	63. _____	64. _____	65. _____
66. _____	67. _____	68. _____	69. _____	70. _____

B. ALBERTA INCENTIVE MOTIVATION INVENTORY (IMI).

Try to decide which one of the four available responses to each statement best represents the way you feel. Then circle the appropriate number in the column at the right. Work fairly quickly. Your first reaction to each statement is usually the most accurate one. Please be sure to answer all the questions.

		Always	Often	Seldom	Never
1.	In sport, doing the best I possibly can is more important than anything else.	4	3	2	1
2.	Sweating in practices is pleasant for me.	4	3	2	1
3.	Public criticism of my work in the gym bothers me.	4	3	2	1
4.	Close friendships with my teammates are necessary for me.	4	3	2	1
5.	Working hard to perfect my individual skills is what counts in my sport.	4	3	2	1
6.	High pressure situations in my sport are fun.	4	3	2	1
7.	I compete to win!	4	3	2	1
8.	Being accepted by my teammates is more important to me than winning.	4	3	2	1
9.	The better I perform in my sport, the more I like myself.	4	3	2	1
10.	The more complicated a sport is, the more I like it.	4	3	2	1
11.	I like to see my name in the sports section of the newspaper.	4	3	2	1
12.	I can be friendly with teammates who do things which I consider wrong.	4	3	2	1
13.	Competing well is more important than winning.	4	3	2	1
14.	I enjoy being "uptight" and nervous before and during a competition.	4	3	2	1
15.	I like competing in front of large crowds of people.	4	3	2	1

		Always	Often	Seldom	Never
16.	I enjoy my participation in sport just to be with other people.	4	3	2	1
17.	I get very upset with myself when I don't perform as well as I can.	4	3	2	1
18.	I like doing new things in my sport.	4	3	2	1
19.	Winning in sport is the most important thing even when I do not perform well but still win.	4	3	2	1
20.	Taking part in team affairs is important to me.	4	3	2	1
21.	Practising really hard is what makes great athletes.	4	3	2	1
22.	Not knowing whether I'm going to win or lose before a competition is attractive to me.	4	3	2	1
23.	Competitions are more important than practices.	4	3	2	1
24.	I want to be considered friendly by my teammates and coach.	4	3	2	1
25.	I blame myself when I perform badly.	4	3	2	1
26.	I like lots of noise while I'm performing.	4	3	2	1
27.	I dislike losing.	4	3	2	1
28.	A warm, friendly atmosphere on the team is important to me.	4	3	2	1
29.	I would rather learn the difficult things in my sport than the easy ones.	4	3	2	1
30.	Drills, practicing the same things over and over, bore me.	4	3	2	1
31.	I am engaged in my sport because my parents want me to.	4	3	2	1
32.	I like to train with other people.	4	3	2	1
33.	I practice new skills until I can do them perfectly.	4	3	2	1
34.	Excitement in a competition is more important than winning.	4	3	2	1

		Always	Often	Seldom	Never
35.	The marks are important in a competition.	4	3	2	1
36.	I get very upset when my teammates or my coach reject me or put me down.	4	3	2	1
37.	I give 100% no matter who my opponent is.	4	3	2	1
38.	I like variety in practices.	4	3	2	1
39.	I would like to be a well-known athlete in my sport.	4	3	2	1
40.	The only reason I participate in sport is to make friends.	4	3	2	1

Appendix B

Modifications in the Alberta IMI Undertaken in the Present Study

Alberta IMI, 1980 variant	Alberta IMI, present study
1. Statement 15 (Excellence): "The better I play, the more I like myself" becomes.....	Statement 9: "The better I perform in my sport, the more I like myself"
2. Statement 24 (Stress): " I enjoy being 'uptight' before and during a game" becomes:.....	Statement 14: " I enjoy being 'uptight' and nervous before and during a competition"
3. Statement 33 (Success): "Winning in sport is the most important thing even when I play badly" becomes	Statement 19: "Winning in sport is the most important thing even when I do not perform well but still win"
4. Statement 52 (Success): "Drills bore me" becomes	Statement 30: "Drills, practicing the same thing over and over, bore me"
5. Statement 63 (Affiliation): " I get very upset when my teammates or my coach reject me" becomes	Statement 36: " I get very upset when my coach rejects me or puts me down"

Appendix C

The Coach Attitude-Behavior Scale (CAB)

B. Instruments

1. Coach Attitude Behavior Scale.

Instructions

The following statements are based upon situations and specific problems with which coaches sometimes must concern themselves. The best answer to each statement is your personal choice. I have tried to cover a wide variety of coaching questions. You may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others; whether you agree or disagree with any statement, you can be sure that many coaches feel the same as you do. Please base your opinions upon your feelings and your actual behavior with respect to your coaching experience.

Please circle the appropriate response using the following scale:

1 strongly agree
2 agree a little
3 neutral: I don't agree or disagree
4 disagree a little
5 strongly disagree

	SA	A	N	D	SD
1. It is best to maintain a large social distance from the gymnasts in order to maintain a high level of authority.	1	2	3	4	5
2. Coaches should be concerned with discovering the individual athletes who violate team or social rules.	1	2	3	4	5
3. The gymnast should always realize that coaches are the boss whether or not they are right and their decisions or regulations should never be questioned.	1	2	3	4	5
4. The coach has the right to set all rules and regulations and anyone who violates these rules must be disciplined.	1	2	3	4	5
5. The coach has enough problems trying to achieve a high performance level from her gymnasts and should not overly concern herself with an individual gymnast's problem.	1	2	3	4	5
6. Gymnasts with grievances should bring them to the attention of the coach (either themselves or through another person).	1	2	3	4	5

		SA	A	N	D	SD
7.	The best way to eliminate mistakes is to make the gymnast do push-ups, laps or any form of hard physical exercise so that she will remember her mistakes and won't make them again.	1	2	3	4	5
8.	Most gymnasts are motivated by threats of punishment such as laps, push-ups, etc.	1	2	3	4	5
9.	Gymnasts are motivated by threats of not being promoted to a higher level or expulsion from the team.	1	2	3	4	5
10.	Disciplinary action taken by the coach is easier and handled better if the gymnasts involved are not personally close to the coach.	1	2	3	4	5
11.	Coaches should get to know their gymnasts slightly, but should not become friendly or warm with them.	1	2	3	4	5
12.	Gymnasts should realize that the coach knows more than they do in MRG and should never ask "why?".	1	2	3	4	5
13.	A well disciplined team makes the coach look better to the community at large.	1	2	3	4	5
14.	A well disciplined team on and off the competition site usually has a better performance record.	1	2	3	4	5
15.	A rigid relationship with a gymnast on and off the gymnasium floor should be one of the methods used by coaches to maintain the respect and jurisdiction a coach deserves and needs in order to best perform her duties as coach.	1	2	3	4	5
16.	A coach who is too friendly with her gymnasts and does not remain somewhat detached from them is apt to lose her position of influence over her gymnasts.	1	2	3	4	5
17.	A coach should always keep her overall won-lost record in mind in order to see if her gymnasts view her as successful or not.	1	2	3	4	5
18.	Coaches and club officials should be aware of trouble-makers in the club whether they are gymnasts or not.	1	2	3	4	5
19.	Those individual gymnasts who insist on making trouble or disrupting the club must be punished or "put down" by any acceptable method available.	1	2	3	4	5

	SA	A	N	D	SD
20. A coach should refrain from taking extreme position in any aspect of social or professional behavior because she must set a conservative example to her gymnasts and to other coaches.	1	2	3	4	5
21. A coach should organize herself to the point that there can be absolutely no question in her mind or her gymnasts' minds about what is occurring whether it be during a competition, during practice, or during a road trip.	1	2	3	4	5
22. Gymnasts recognize the position of authority of the coach and respond to forceful and direct criticism or threat of criticism in a desired direction.	1	2	3	4	5
23. Discipline in MRG helps create model citizens or at least helps develop individuals to take meaningful and worthwhile positions in society.	1	2	3	4	5
24. Gymnasts should not be encouraged to come and talk to the coach about problems in the composition of the routines because this is the coach's concern. The gymnast should be concerned with perfecting her techniques and routines.	1	2	3	4	5
25. If more people would participate in MRG, they would be able to discipline themselves in everyday life because of discipline learned from sport.	1	2	3	4	5
26. No single individual - gymnast or coach, is more important than the overall organization or MRG.	1	2	3	4	5
27. The coach should listen carefully and attempt to follow criticism from:					
a. the press and media	1	2	3	4	5
b. the fans	1	2	3	4	5
c. the gymnasts	1	2	3	4	5
d. the organization	1	2	3	4	5
28. My major priority as a MRG coach is:					
a. to produce an entertaining team	1	2	3	4	5
b. to produce a winning team	1	2	3	4	5
c. to attract many spectators for every competition	1	2	3	4	5

N.B.: Your answer may be a combination of any, all, or none of the above. If the above do not apply to you, write your best answer in the space below.

Appendix D

The Least Preferred Co-worker (LPC) Scale

2. Least Preferred Co-worker Scale (L.P.C.)

Think of a gymnast with whom you can work least well. She may be a gymnast you coach now or someone you have coached in the past. The gymnast should be someone you have had the most difficulty in obtaining maximal performance in MRG situations. Place a check (✓) in the space which, in your mind, best describes this gymnast on each of the pairs below. Please do all pairs. For example, if you think the gymnast is somewhat neat you would answer below thus:

Neat								Not Neat
	:	: ✓	:	:	:	:	:	
8	7	6	5	4	3	2	1	
Very neat	Quite neat	Somewhat neat	Slightly neat	Slightly untidy	Somewhat untidy	Quite untidy	Very untidy	

Pleasant	:	:	:	:	:	:	:	Unpleasant
	8	7	6	5	4	3	2	1
Friendly	:	:	:	:	:	:	:	Unfriendly
	8	7	6	5	4	3	2	1
Rejecting	:	:	:	:	:	:	:	Accepting
	1	2	3	4	5	6	7	8
Helpful	:	:	:	:	:	:	:	Frustrating
	8	7	6	5	4	3	2	1
Unenthusiastic	:	:	:	:	:	:	:	Enthusiastic
	1	2	3	4	5	6	7	8
Tense	:	:	:	:	:	:	:	Relaxed
	1	2	3	4	5	6	7	8
Distant	:	:	:	:	:	:	:	Close
	1	2	3	4	5	6	7	8
Cold	:	:	:	:	:	:	:	Warm
	1	2	3	4	5	6	7	8
Cooperative	:	:	:	:	:	:	:	Uncooperative
	8	7	6	5	4	3	2	1
Supportive	:	:	:	:	:	:	:	Hostile
	8	7	6	5	4	3	2	1
Boring	:	:	:	:	:	:	:	Interesting
	1	2	3	4	5	6	7	8

-7-

Quarrelsome	1 2 3 4 5 6 7 8	Harmonious
Self-assured	8 7 6 5 4 3 2 1	Hesitant
Efficient	8 7 6 5 4 3 2 1	Inefficient
Gloomy	1 2 3 4 5 6 7 8	Cheerful
Open	8 7 6 5 4 3 2 1	Guarded

Appendix E

The Team Atmosphere (TA) Scale

3. Team Atmosphere Scale (T.A.)

Place a check (✓) in the space which, in your mind, best describes your team on each of the pairs below. Do all parts.

Pleasant	___:___:___:___:___:___:___:___ (8 7 6 5 4 3 2 1)	Unpleasant
Friendly	___:___:___:___:___:___:___:___ (8 7 6 5 4 3 2 1)	Unfriendly
Bad	___:___:___:___:___:___:___:___ (1 2 3 4 5 6 7 8)	Good
Worthless	___:___:___:___:___:___:___:___ (1 2 3 4 5 6 7 8)	Valuable
Distant	___:___:___:___:___:___:___:___ (1 2 3 4 5 6 7 8)	Close
Cold	___:___:___:___:___:___:___:___ (1 2 3 4 5 6 7 8)	Warm
Quarrelsome	___:___:___:___:___:___:___:___ (1 2 3 4 5 6 7 8)	Harmonious
Self-assured	___:___:___:___:___:___:___:___ (8 7 6 5 4 3 2 1)	Hesitant
Efficient	___:___:___:___:___:___:___:___ (8 7 6 5 4 3 2 1)	Inefficient
Gloomy	___:___:___:___:___:___:___:___ (1 2 3 4 5 6 7 8)	Cheerful

Appendix F

Instructions and Part "A" of the Athlete's Questionnaire

DEPARTMENT OF MOVEMENT EDUCATION
FACULTY OF PHYSICAL EDUCATION AND RECREATION

Athlete's Questionnaire.

This is a questionnaire that is designed to assess what attitudes you have towards competitive Modern Rhythmic Gymnastics and how you feel about yourself as a competitive athlete. It is important that you answer these questions as truthfully as you can. There are, of course, no right or wrong answers and it is particularly important for you to answer the way you honestly feel. Your answers will be kept completely confidential.

A. 1. Name _____

2. Date of birth _____

3. Competing level:
   - individual events: ___ Pre-Master Junior
     ___ Pre-Master Senior
     ___ Master Junior
     ___ Master Senior
   - group events: ___ Junior group
     ___ Senior group

4. Number of years you have been competing in MRG _____.

5. Number of years you have been competing in the present events (see question 3) _____.

Appendix G

Cover Letter and Background Information

Included in Coach's Questionnaire

DEPARTMENT OF MOVEMENT EDUCATION
FACULTY OF PHYSICAL EDUCATION AND RECREATION

April 15, 1981.

Dear Coach:

Thank you for agreeing to participate in this study. The information you provide will be used to describe the different leadership styles used by the MRG coaches in Canada. The information you provide cannot be used to evaluate your coaching ability, it can only describe it. It will be of interest, to all of us involved in MRG, to discover the styles used by our top coaches. No coaches who respond to this questionnaire will be identified by name, the results will be anonymous.

The questionnaire should not take too much of your time. Please read the instructions and the questions carefully, and then select your answers quite quickly.

As soon as the results are compiled I will mail you a copy of the results with explanations, and suggestions as to how to apply the ideas to your coaching.

Thank you again for your assistance.

Yours sincerely,

Liliana Ilica

Liliana Ilica
National Competitive Coaching Chairwoman

Education 1-g108, The University of Alberta, Edmonton, Alberta T6G 2G5, phone (403) 432-3652

DEPARTMENT OF MOVEMENT EDUCATION
FACULTY OF PHYSICAL EDUCATION AND RECREATION

A. Coach's Background Information

1. Name: _____ Age: (check one)
___ 18-29 yrs. ___ 46-60 yrs.
___ 30-45 yrs. ___ over 60 yrs.

Place of birth _____

Country lived in longest _____

Marital status (check one) Single ___ Married ___
Divorced or separated ___ Widowed ___

Number of children ___ Age and sex of children _____

City or town where you live _____

2. What is the highest level of education you have completed? (check one)

Less than grade 10 ___ Some college or university ___
Some high school ___ College graduate ___
High school graduate ___ University graduate ___

If you are a college or university graduate, what specialization did you take while there? _____

Number of years you competed in MRG _____

Number of years as an assistant coach _____
Number of years as the head coach _____

Check all levels of the National Coaching Certification Program that you have qualified for:

Level 1 theory ___ MRG Level 1 ___
Level 2 theory ___
Level 3 theory ___

Please list any other coaching certificates for which you have qualified _____

_____

Education 1-g108, The University of Alberta, Edmonton, Alberta T6G 2G5, phone (403) 432-3652

3. Average periods of time spent on coaching:

Total time per week in actual training or practice _____ hours.

Total time per week in preparation and planning outside of practice sessions _____ hours.

Total time per week in organizing, promoting and general administration _____ hours.

How many months a year are your elite gymnasts in training?____ months.

4. How many elite gymnasts do you coach at present?

_____ individual events

_____ group events

Appendix H

Correspondence

11555 130 Avenue,
Edmonton, Alberta,
T5X 3L3.

May 12, 1981

Dear ,

Thank you very much for participating in the study I am conducting at the University of Alberta. As you know "leadership style in coaching" is one of the topics.

I would also like to extend my thanks to your athletes and their parents for their enthusiastic cooperation.

As I mentioned in the introductory letter to the questionnaire, I will send you a copy of the results and recommendations upon completion of the study.

Wishing you a successful new AAU season,

Yours sincerely,

Liliana Ilica.

Appendix I

A. The Sample

1. Modern Rhythmic Gymnasts' Sample: Tables 11 - 15

2. Coaches' Sample: Tables 16 - 26

B. Patterns of Incentive Motivation as Measured by the I.M.I.

Tables 27 - 30

C. Leadership Style Relationships

Tables 31 - 32

Table 11

M. R. Gymnasts Age

Age Groups	Number	Percentage	Mean	Std. Dev.
9 - 14 y.o.	31	39.2%	12.806	1.19
15 - 24 y.o.	48	60.8%	17.625	2.30
9 - 24 y.o.	79	100%	15.73	3.06
Missing data	5			

Table 13

Incentive Motivation Score Values

Identified by Alderman and Watson (from Keene, 1977)

Category	Incentive System Scores
Weak	10 - 20
Medium	20 -30
Strong	30 -40

TABLE 12

Differences, Means, and Standard Deviations for the Four IMI Subtests for the Three Subgroups of M.R. Gymnasts

Event	IMI Subtest	Min.	Max.	Mean	S.D.
Individual	Excellence	32	40	36.13	2.04
Group		30	40	35.36	2.53
Both		30	37	34.12	2.58
Individual	Stress	23	32	27.00	2.69
Group		20	33	26.87	2.98
Both		18	31	25.87	4.48
Individual	Success	21	31	26.40	2.58
Group		18	33	25.49	3.41
Both		19	30	25.75	3.41
Individual	Affiliation	24	35	32.47	3.25
Group		26	40	31.92	3.23
Both		27	34	30.37	3.16

Table 14

Ranges, Means and Standard Deviations for the TA Scores, Considering Age Categories

Age category	Min.	Max.	Mean	S. D.
Juniors (27)	64	80	74.52	4.76
Seniors (47)	48	80	69.76	8.34
Missing Data	10			

Table 15

Ranges, Means, and Standard Deviations for the TA Scores Considering the Competing Event

Event	Min.	Max.	Mean	S. D.
Individual (11)	61	80	70.54	6.68
Group (61)	47	80	71.84	7.53
Both (6)	55	79	71.00	8.79
Entire Population (78)	47	80	71.59	7.43

Missing data: 6

Table 16

Coaches Age Ranges

Age, years	Number	Percentage
18 - 29	5	41.67
30 - 45	5	41.67
46 - 60	2	16.66
Total	12	100.00

Table 17

Country Coaches Have Lived in Longest

Country lived in longest	Number	Percentage
Canada	7	58.33
Bulgaria	1	8.33
Romania	2	16.67
Germany	1	8.33
Japan	1	8.33
Total	12	100.00

Table 18

Number of Children in Coaches' Families

Number of Children	Number of Coaches	Percentage
None	6	50
One	3	25
Two	3	25
Total	12	100

Table 19

Highest Level of Education, and Specialization of Coaches Holding a University Degree

Level of Education	No.	%	Specialization of coaches with univ. deg.	No	%
High school, some college	3	25			
University degree	9	75	Physical Educ.	6	66.67
			M.R.G.	3	33.33
Total	12	100		9	100

Table 20

Coaches' Experience as Competitors

Duration	Number	Percentage
No experience	2	16.66
Less than 5 years	6	50.00
More than 5 years	4	33.34
Total	12	100.00

Table 21

M.R.G. Coaching Experience

	1. Assistant Coach	Mean years	2. Head Coach	Mean years
No experience	8(66.67%)			
Less than five years experience	4(33.33%)	3.5	5(41.7%)	1.8
Five years or more			7(58.3%)	9.57
Total	12		12	

Table 22

Coaching Qualifications

NCCP Qualification	Number	Percentage
1. M.R.G.		
Certified Level I	8	66.66
Not certified	3	25.00
Not applicable	1	8.34
Total	12	100.00
2. Other certifications		
- Badminton		
Certified Level I	1	4.15
- Artistic Gymnastics		
Certified Level I	3	20.85
- Figure Skating		
Certified Level I	1	4.15
- Kayaking		
Certified Level I	1	4.15
- Trampoline		
Certified Level I	1	8.35
- M.R.G		
Technical Level II	1	8.35
- Not specified	6	50

Table 23

Number of Gymnasts Training

for Individual Events

Number of Gymnasts	Number of Coaches	Percentage
1	3	25.00
2	3	25.00
3	1	8.30
4	2	16.70
No Gymnasts	3	25.00
Total 20	12	100.00

Table 24

Number of Groups under Training

Number of groups	Number of coaches	Percentage
1	8	66.7
2	3	25.00
No groups	1	8.3
Total 14	12	100.00

Table 25

Coaches TA Scores Within the Upper Limit

Category limit	Number	Percentage
56.6 - 64.4	2	18.18
64.5 - 72.2	6	54.54
72.3 - 80.0	3	27.28
Total	11	100.00

Table 26

Means and TA Ranges Reported in Different Studies

Author, year	Sport	TA Mean	TA Range
Naylor, 1973	Footbal	68.4	41 - 80
Horwood, 1979	Basketball	68.2	57 - 80
Ilica, 1981	M.R.G	70.64	62 - 80

Table 27

Summary of Two-Way Analysis of Variance on the IMI Subtest of Excellence

Source	Sum of Squares	D.F.	Mean Squares	F ratio	Probability
A (Age)	0.62	1	0.62	1.06	0.31
B (Competing Event)	0.10	2	0.50	0.85	0.43
E (Within)	0.44	75	0.59		

Table 28

Summary of Two-Way Analysis of Variance on the IMI Subtest of Stress

Source	Sum of Squares	D.F.	Mean Squares	F Ratio	Probability
A (Age)	0.61	1	0.61	0.68	0.41
B (Competing Event)	0.59	2	0.29	0.33	0.72
E (Within)	0.67	75	0.89		

Table 29

Summary of Two-Way Analysis of Variance on the IMI Subtest of Success

Source	Sum of Squares	D.F.	Mean Squares	F Ratio	Probability
A (Age)	0.27	1	0.27	2.69	0.11
B (Competing Event)	0.26	2	0.13	1.32	0.27
E (Within)	0.75	75	0.10		

Table 30

Summary of Two-Way Analysis of Variance on the IMI Subtest of Affiliation

Source	Sum of Squares	D.F.	Mean Squares	F Ratio	Probability
A (Age)	0.37	1	0.37	0.35	0.55
B (Competing Event)	0.33	2	0.17	1.55	0.22
E (Within)	0.80	75	0.11		

Table 31

Pearson Correlation Coefficients for LPC Scores and Educational Background, Coaching Qualification, Years of Coaching Experience, Cultural Background, and Marital Status

Educational Background	Coaching Qualifications (NCCP)	Years of Coaching Experience	Cultural Background	Marital Status
0.16	-0.07	0.21	LPC 0.63	-0.32
p = 0.34	p = 0.43	p = 0.30	p = 0.03	p = 0.20

Table 32

Pearson Correlation Coefficient for LPC Scores and Time Spend on Coaching or M.R.G. Related Activities

Training hours per week	Preparation Hours per week	Organizing Hours per week	Months of Training per year
0.13	0.26	0.24	0.17
p = 0.37	p = 0.25	p = 0.27	p = 0.33